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ABSTRACT

This document is comprised of twelve consecutive issues (1995-1998) of a newsletter published quarterly to provide information on current research and practice to early childhood professionals teaching in the primary grades in Colorado, Iowa, Nebraska, Missouri, and Montana. The Winter 1995 issue focuses on necessary conditions for math/science concept development, and includes discussions of early literacy development. The Spring 1996 issue focuses on portfolio assessment and play. The Summer 1996 issue summarizes research on class size effects and presents recommendations regarding full-day kindergarten. The Fall 1996 issue focuses on scaffolding in the zone of proximal development. The Winter 1996 issue presents suggestions for implementing developmentally appropriate practices, discusses child care quality, and contains a position statement on interdisciplinary learning. The Spring 1997 issue concerns positive transitions and early literacy, class size, and worksheets in kindergarten. The Summer 1997 issue focuses on providing language-rich home and school environments. The Fall 1997 issue deals with physics concepts in first grade and facilitating oral language skills. The Winter 1997 issue presents a developmental approach to student assessment, discusses grading, and describes the Even Start program. The Spring 1998 issue examines the mismatch in culture and expectations of early childhood and elementary education, preparing children for kindergarten, and ensuring that schools are ready for children. The Summer 1998 issue focuses on preventing reading difficulties, and includes discussion of the 100 most frequent words in beginning readers' books. The Fall 1998 issue includes a portion of a position statement on early reading and writing. (KB)

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MANIPULATIVES ARE NOT ENOUGH: NECESSARY CONDITIONS FOR MATH/SCIENCE CONCEPT DEVELOPMENT

David Wright, Ed.D.

For some time educational writers have been concerned about many of the concepts taught in both math and science and the developmental appropriateness of them. Underhill has stated, "Evidence is accumulating that implies strongly that we are teaching mathematical concepts and skills that many learners in many classrooms cannot understand."[1] Kovalik argues that "a large percentage of the concepts identified for elementary students is, in fact, beyond what students can understand at those ages; they may be able to memorize and parrot them back but that does not indicate a real understanding."[2] Unfortunately, the early introduction of complex, perhaps inappropriate, concepts in math and science, during the early childhood years, has been accepted by many educators as long as they were introduced with concrete, manipulative objects.

Using manipulative materials to introduce mathematical or scientific concepts is typically based on the learning theories of Maria Montessori and Jean Piaget who suggested that children construct knowledge from their actions on the environment. And such actions require objects to manipulate.[3] It is also based on an understanding of how concepts are learned as expressed by Beattie:

"...it is generally agreed that an optimal learning sequence of mathematical concepts moves from concrete to semiconcrete (iconic) to abstract learning experiences. Such a sequence involves objects and their manipulation, pictures or models of real objects, and finally, the use of abstract symbols."[4]

Similarly, Jack Ott and others have stated that "familiar, concrete experience actual or recalled should be a first step in the development of new abstract concepts and their symbolization."[5]

As a result of these understandings about learning, teachers energetically use an approach to mathematics and science instruction that emphasizes manipulation. The manipulation activities generally go well and the children seem to be learning. Encouraged by the results, teachers move the activities to the symbolic level and find, to their dismay, that many of the children are not able to deal with the concept in a symbolic way. In frustration many teachers resort to the old methodology of telling the children the rules necessary for completing the symbolic tasks and forget the concern for concept development.

What is incorrectly assumed by many teachers is that there is some sort of "burst of understanding" that occurs for all children as a result of manipulative activities. It is felt that the connectedness from concrete to semiconcrete to abstract happens magically, as if the materials themselves contain the understanding. If the children just get enough "hands on experiences," the understanding will be absorbed through the pores of the hands. The materials, of course, do not contain the understanding; the child does. These misunderstandings, based on a widely accepted theory of learning, need changing.

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Another View

While it is true that Piaget felt that children construct their own knowledge, he also believed that cognitive development occurs in stages along a continuum and that the use of concrete materials is important at each of the stages in order for the child to build mental images.[6] In addition, it seems that the child's readiness for concrete experiences is based on a complicated, not well understood, combination of prior learnings and current level of cognitive functioning. This means that in order to understand a mathematical or scientific concept, the child must be at the appropriate stage of cognitive development for that particular concept, even when using manipulatives.

For instance, Piaget suggests that primary grade children cannot think meaningfully about things which are not real. To the young child who is in the primary grades, reality is that which one can see, hear, taste, touch or smell, yet we

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Math/Science Concept

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sometimes try to teach these children concepts that have no basis in reality. An example of this is arithmetic regrouping. Regrouping numerical values is not part of the primary child's reality. Regrouping is an abstract concept that was developed in the mind and is not physically manifested. Only when the child has reached the stage of concrete thought (usually around age eight) is it possible to meaningfully learn about abstract ideas using concrete experiences. With the onset of concrete thought the manipulation of a variety of materials is appropriate for developing a beginning understanding of arithmetic regrouping.

Developmentally inappropriate math or science expectations foster, in many children, a sense of incompetence.

Science too has concepts that appear to be inappropriate for many young children. Brain researchers and Seven Intelligence advocates have expressed concern about the early introduction of inappropriate concepts in math and science. Kovalik states that "*This is particularly true in science. For example, solar system as a subject for second or third graders is wildly age-inappropriate. The concepts are highly abstract and not experienceable - the ground on which we stand is spinning at hundreds of miles an hour, and the distances between planets are computed in millions of miles or even light years, a measurement that most adults can't relate to.*"[3]

The understanding of mathematical and scientific concepts, then, is dependent on two factors that are closely related: experiences at the concrete, semiconcrete, and abstract level and the child's stage of cognitive development. The child's level of cognitive development cannot be rushed and changes slowly over a period of time. It also takes time and a sequence of experiences from the concrete to abstract in order to build mental images in the mind of the child who is cognitively ready.

While Piaget's stages do have ages attached to them, it is clear that not all seven or eight year olds are concrete thinkers and, conversely, some six year olds are. How a teacher decides what is a developmentally appropriate concept is difficult and will not always "hit the mark". Two strategies that are typically taken are considering the "age appropriateness" and the "individual appropriateness" of each concept.

Age appropriate math and science concepts are those concepts that one would typically expect children of that age to understand, given good teaching techniques such as the use of manipulatives. This knowledge comes from experience with children of this age and understanding of preoperational and concrete thought. Using the example of mathematical regrouping, one would expect that most third graders should be able to deal with this concept.

Individually appropriate math and science concepts are more difficult to identify. This requires careful observation and knowledge of individual children in the classroom. Those children who seem to be able to grasp somewhat difficult concepts might benefit from a concrete introduction to an idea like regrouping even if they aren't seven or eight years of age.

Initially, however, it is probably best for the teacher to use the age appropriate guidelines to determine math and science concepts early on in the year, and then, as time passes and knowledge of individuals increases, one can substitute more individually appropriate concepts.

When a person can understand and successfully think through a math or science problem, a sense of competence ensues. A curriculum that most closely matches a child's level of thinking, and therefore makes sense, helps that child feel competent to understand and use what is learned. On the other hand, when something does not make sense and a solution appears out of reach, a person feels incompetent. Developmentally inappropriate math or science expectations such as arithmetic regrouping foster, in many children, a sense of incompetence.

When a young child is presented with concepts not appropriate for his or her level of cognitive development, the child becomes frustrated. The result can be devastating to the child's developing sense of self as mathematician or scientist—as a person capable of understanding and using our mathematical and scientific symbol system. Such children may come to view mathematics and science as mysterious, incomprehensible systems.

To avoid this situation, it is recommended that each teacher keep in mind not only the need to introduce math and science concepts through manipulatives, but also the developmental stages of the children in the class. That is, each teacher should try to teach those concepts which are developmentally appropriate.

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[1] Underhill, R. (1985). *One Point of View: Let's Diagnose the Curriculum.* ARITHMETIC TEACHER, 33 (4) 1.

[2] Kovalik, S. and Olsen (1993). ITI: THE MODEL - INTEGRATED THEMATIC INSTRUCTION (2nd Edition). Susan Kovalik and Associates, 6.

[3] Piaget, J. (1964). THREE LECTURES: PIAGET REDISCOVERED. Ithaca, New York: Cornell University Press.

[4] Beattie, I. D. (1986). *The Number Names: An Aid to Understanding Place Value.* ARITHMETIC TEACHER, 33 (5) 24.

[5] Ott, J., Snook and Gibson (1991). *Understanding Partitive Division of Fractions.* ARITHMETIC TEACHER, 39 (2) 7.

[6] Ibid.

[7] Op. cit.

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TOTAL QUALITY EDUCATION

The Woods Quality Center has produced a 17-minute video entitled ***Total Quality at Prairie View: "A New Way of Learning"***. Using the Prairie View Elementary School in Cedar Rapids, Iowa, as a resource, the tape focuses on the critical roles children can play in their own education.

Highlights include observing students while they conduct self-assessments, lead parent conferences and classroom meetings, work in teams, and plan with a systems approach. Children solve problems, set goals, and chart their progress in an environment where teachers become "supporters rather than judges, coaches rather than lecturers, partners with students and parents rather than isolated within the walls of each classroom."

The Woods Quality Center is a coordinated effort by area private and public organizations to integrate continuous quality improvement into communities in Iowa. The Center was formed in 1993 as the result of a shared vision of a Total Quality environment for the entire community and a belief that all organizations benefit from a commitment to such quality improvement: businesses, government, labor, manufacturers, nonprofits, and schools.

The videotape may be ordered for $89, plus $5 per tape for shipping and handling, by contacting The Woods Quality Center, 4401 Sixth Street, SW, Cedar Rapids, Iowa, 52404-4499, (319) 399-6798; the director of the Center is Robert McNiel. Persons wishing to learn more about Prairie View Elementary may contact its principal, Marilyn Miller, at (319) 848-5260.

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IMPLICATIONS OF UNDERSTANDING THE BRAIN

A collaborative relationship should exist between scientists and educators, writes Philip Cohen in ***"Understanding the Brain: Educators Seek to Apply Brain Research"***. To emphasize the importance of such collaboration and how it can directly affect education, Cohen reviews Robert Sylwester's book, ***A Celebration of Neurons: An Educator's Guide to the Human Brain***, and finds that in it Sylwester provides examples of recent discoveries which have specific implications for primary-grade teachers and other educators.

When learning to read, for example, a child has to develop new connections between the regions in the brain that process oral and written language. These connections "may grow to be more efficient," according to research, if early reading instruction adjusts to more normal processing rates, instead of maintaining slower rates which appear to be easier for the child.

During the early childhood years, children develop strategies for solving arithmetic problems by using their fingers and/or other manipulatives. They learn a new strategy most efficiently when adults present them with problems that can be solved using that strategy, rather than allow the children to become frustrated with the current strategies they are employing. The implications of brain research are, according to Sylwester, that teachers should be providing information about a variety of arithmetic strategies and facilitating children's learning to self-monitor the use of these strategies in problem solving.

Cohen writes that such suggestions are based on an understanding of the brain's *plasticity*, its ability to grow and adapt in response to environmental stimuli. This complexity of the brain means that a method of instruction which is based on complex experiences is a more effective means than one which narrowly focuses on subject disciplines and the accumulation of facts and skills. Cohen quotes Renate Caine, co-author of ***Making Connections: Teaching and the Human Brain***, who champions the complex experience method: *"That means that the children have hands-on experience. They have the potential to engage in dialogue with other people. They have the opportunity to express something orally, the opportunity to express something in written form, the opportunity to touch, to recreate."*

Research on brain functioning can also serve to identify inappropriate educational practices. Cohen cites Susan Kovalik, an education consultant and developer of the Integrated Thematic Instruction model, who has written that *"what has to go are the curriculum pieces we've clung to for centuries. Disciplines have to go; the textbooks have to go; the worksheets have to go—because they have nothing to do with how the brain works."*

Philip Cohen's article, ***"Understanding the Brain: Educators Seek to Apply Brain Research,"*** appeared in the September 1995 issue of **ASCD's Education Update** (Volume 37, Number 7). Robert Sylwester's and Renate Caine's books are both available from the **Association for Supervision and Curriculum Development**, 1250 N. Pitt Street, Alexandria, Virginia 22314, (703) 549-9110.

WHOLE LANGUAGE, LITERACY DEVELOPMENT, AND KINDERGARTEN

An article by Scott Willis entitled ***"Whole Language: Finding the Surest Way to Literacy"*** comprises the entire Fall 1995 issue of ***Curriculum Update***. He writes that the philosophy of whole language instruction has "swept the primary grades" and that although most teachers still use a basal reader, they have also tended to incorporate aspects of whole language into their reading curriculum. The use of whole language, like other educational reforms, is currently being re-examined, and Willis explores the arguments on both sides of the debate.

Willis references many of the leading authorities on literacy development in his provocative exploration. Gay Fawcett, director of curriculum and instruction for the Summit County (Ohio) Education Service Center provides a framework for the debate by indicating that "everyone—even the most hardcore whole language advocates—acknowledges that kids need to learn letter-sound relationships."

Jerome Harste, professor of language education at Indiana University-Bloomington, declares that "whole language is the best phonics program there is," and Constance Weaver, professor of English at Western Michigan University recommends strategies for teaching phonics in the context of whole language passages.

Phonetic teaching in such a manner is only "incidental", and thus inadequate, according to Jeanne Chall, professor emerita of the Harvard Graduate School of Education. "Sometimes you have to take things out of context" in order to teach them effectively, she writes. "God doesn't say everything has to be in context."

Steve Stahl, professor of reading at the University of Georgia, is concerned about the elimination of the direct teaching of phonic skills, and about teachers' waiting for teachable moments. "What if that moment arises when the teacher is working with another kid? The teacher can't be everywhere."

In a similar vein, Bill Honig, the former California Superintendent of Schools and currently a professor at San Francisco State University, believes that the state's literature-based, language arts framework was "disastrous for huge numbers of kids in California.... We took for granted that teaching phonics would happen."

"Whole language has gone way too far in under emphasizing word attack and phonetic skills," asserts Bob Slavin, codirector of the Center for Research on the Education of Students Placed At Risk, at Johns Hopkins University. Yet Yvetta Goodman of the University of Arizona contends that "If given rich experiences, kids will find ways to come to literacy" and that the recommendation that children, who have not had rich early literacy experiences, receive lots of direct skills instruction "blows my mind."

In the midst of the arguments, Marilyn Jager Adams, professor of cognitive and linguistic sciences at Brown University, says that "the best bet is to invest in kindergarten" to help children who lack a literacy background. Scott Willis writes that

All young children benefit if engaged in activities (such as games and rhymes) that direct their attention to the sounds of language. By finding ways to engage kindergartners with print, stories, and the sounds and structure of language, teachers can make sure young children have "phonemic awareness"—an understanding of the logic of written language. This understanding lays the groundwork for later learning.

Adams further states that teaching phonics to children who don't have such phonemic awareness is "a big waste of time. The very kids who need it the most are just not responding."

A reprint of this issue of ***Curriculum Update*** (Fall 1995) is available for $1.00 plus a stamped, self-addressed envelope from the **Association for Supervision and Curriculum Development**, 1250 N. Pitt Street, Alexandria, Virginia 22314, (703) 549-9110. When ordering, refer to stock number 1-95232.

ADULT INTERACTIONS

The subject of what constitutes appropriate adult interactions in primary-grade classrooms and other early childhood settings is frequently examined. The topic has, in fact, been explored in past issues of ***Of Primary Interest***. In the ***Colorado Quality Standards for Early Childhood Care and Education Services***, a new section has been developed which focuses on "The Role and Function of the Teaching Team" (Spring 1995/Volume 2, Number 2); and Elena Bodrova and Deborah Leong are championing the role of the primary-grade teacher in raising the level of a child's assisted performance, while facilitating the practice of what she/he can do independently (Fall 1995/Volume 2, Number 4).

In the Fall 1995 issue of the ***High/Scope Resource***, Mary Hohmann and David P. Weikart provide information about quality interactions in a preschool environment, which apply equally to the primary grades. They identify five key strategies adults should use:

- Provide a variety of materials for children to work with, in order to assure that there are sufficient opportunities for children to make choices and to manipulate the materials.
- Provide space and time for children to use materials by arranging and equipping play areas and planning a consistent daily routine.
- Seek out children's intentions, thereby strengthening their sense of initiative and control.
- Listen for and encourage children's thinking through relaxed conversations which repeat, amplify, and build on what the child says.
- Encourage children to do things for themselves, by allowing them to think of and practice ways of solving the everyday problems they encounter, and by referring children to one another for ideas, assistance, and conversation.

Hohmann and Weikart have developed a list of ingredients which should be present in the active learning of an early childhood environment: materials, manipulation, choice, language from the child, and adult support. They caution teachers that once the environment is prepared, adults should "continue to be active and involved, observing children and supporting their initiatives throughout the day."

The ***High/Scope Resource*** and other publications are available from the High/Scope Educational Research Foundation, 600 North River Street, Ypsilanti, Michigan 48197, (800) 407-7377.

NEW JERSEY TRANSITION PROJECT

CORN Associates, in partnership with Wayne General Hospital Child Care Center, Wayne, New Jersey, has received a $50,000 grant to develop a project promoting ways for early childhood teachers in public and private schools, parents, and administrators to work together to ensure successful educational transitions from preschool to third grade.

The grant is part of a $1.3 million fund jointly administered by Bell Atlantic, the International Brotherhood of Electrical Workers (IBEW), and Communication Workers of America (CWA).

Ten informational workshops will be presented on issues related to educational continuity. They will be attended by representatives from five preschools, 35 public schools and their "feeder" districts, as well as other interested state educators. Each workshop will be videotaped and will include informational handouts. For more specifics about the project, interested individuals may call Kathryn Arabia, Director of the Wayne General Hospital Child Care Center, at (201) 904-0202.

> Disciplines have to go; the textbooks have to go; the worksheets have to go —because they have nothing to do with how the brain works.
>
> *–Susan Kovalik*

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Assessment Through Portfolios in the Primary Grades

Susan W. Nall

Authentic assessment. Evaluation. Portfolios. Quality Review. Performance Objectives. What does it all mean? How does it relate to the primary grades? As with numerous educational trends in this country, teachers often feel confused, overwhelmed, or anxious. Some teachers, particularly veteran teachers, often develop either a cynical attitude or one of "this too shall pass." Assessment, however, is a topic that is fundamental to excellence in the primary grades and cannot be dismissed.

Portfolio assessment is a powerful instructional tool that reflects learning experiences—both the teacher's activity and the children's activity (Meisels, 1993). It integrates instruction and assessment. Teachers in the primary grades develop portfolios for the purpose of documenting a child's growth and progress over time and communicating with parents about their child. It is important for teachers to ensure that the portfolio reflects all of the developmental domains as well as the major curricular areas.

Portfolios emphasize what children are doing rather than what they are not doing. This philosophical stance may be contrary to the more traditional way of viewing the progress of children. However, it is consistent with the principles of developmentally appropriate practice and the principles of teaching with a view of the whole child (Bredekamp, 1987). Portfolios also emphasize self-assessment. For example, Farr and Tone (1994) discuss the process of self-assessment in language arts. They relate it to the essence of life long learning.

This author believes in simplifying the process so that assessment through portfolios is manageable and meaningful. Gullo (1994) asserts that authentic assessment does not disrupt the process of curriculum implementation since the content areas in the primary grades afford teachers many opportunities to engage in assessment. Paulson, Paulson, and Meyer (1991) discuss portfolios as means that permit instruction and assessment to be woven together in a way that more traditional approaches do not.

Assessment and Evaluation

It is helpful to distinguish between assessment and evaluation. Although the terms are often used interchangeably, they denote different processes. The **National Association for the Education of Young Children** has developed guidelines that define assessment as "the process of observing, recording, and otherwise documenting the work that children do and how they do it, as a basis for a variety of educational decisions that affect the child" (Bredekamp & Rosegrant, 1992). Evaluation refers to the process of examining information and finding value in it, therefore making judgments and interpretations (Batzle, 1992).

What is a Portfolio?

A portfolio is a systematic collection of children's work and other relevant information that reflects the development and progress of an individual child over time (Hills, 1992). Teachers select items for children's portfolios on a systematic basis; however, children can select items, or teachers and children can make selections collaboratively. Since portfolios require students to collect and reflect on examples of their work, providing an instructional component to the curriculum as well as the opportunity for authentic assessments, they become effective assessment tools.

What are the Purposes of a Portfolio?

The numerous educators who are writing about portfolios (Wiggins, 1989; Hills, 1993; Meisels, 1993; Farr & Tone, 1994) agree that the purposes of a portfolio include the following:

1. to plan for instruction,
2. to demonstrate growth over time,
3. to show the process by which the work is done, as well as the product,
4. to document achievement,
5. to communicate with parents,
6. to communicate with the child's subsequent teacher, and

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Portfolios

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7. to assist in program evaluation.

What are the Basic Contents of a Portfolio?

Although different sources identify various items for a child's portfolio, this author suggests the following items for a portfolio of a primary grade child:

- observation records,
- checklists,
- work samples, and
- parent information.

Observation Records

Observation records are written observations of children recorded while they are engaged in daily activities. Notes may be taken spontaneously, or they may be taken during a designated time. Observational records focus on exactly what the child does or says, with the day, time, and setting noted. Index cards, spiral notebooks, post-it notes, and file folders are helpful tools in recording. Records are objective in nature and do not include opinions, judgments, or interpretations.

Checklists

Checklists are listings of specific skills or concepts that teachers identify which are related to the curriculum as well as to national, state, and local curriculum standards (Meisels, 1993). Teachers use checklists when observing regular classroom activities or when they request children to demonstrate a skill. Checklists are simple to complete and provide specific information at a given point in time. They are helpful in supporting efforts of parents and teachers in promoting learning suited to each individual. The ***Math Their Way*** program, for example, utilizes checklists as a means to document children's work.

Parent Information

As teachers of young children and parents work together as partners, the child's education becomes the responsibility of both home and school. An important dimension of that partnership is information that parents can provide about their child. ***The Primary Program*** (1993) suggests that parents share with teachers their perceptions of the student, such as hopes and concerns they have for the child, and information about the child's interests, talents, and any behaviors which they can work on together. Teachers often invite the sharing of such information through the use of forms, surveys, or interest inventories.

Additional Items for a Portfolio

Other items that primary teachers place in a child's portfolio include:

reading logs,
video tapes,
audio tapes,
snapshots,
conference records,
running records,
test results, and
computer disks.

The portfolio is separate from and different than the child's cumulative folder. Test scores and other standardized information become part of the portfolio only if they take on meaning within the context of other items.

Conclusion

Teachers have historically and naturally observed children and collected their work. Through formalizing and organizing the parameters of an already established practice of elementary teachers, the power of this child-centered form of assessment is recognized. Such processes reflect an approach to teaching and learning that emphasizes a comprehensive view of the child, a cooperative style of teaching, and partnerships with families. As the 21st century approaches, portfolio assessment becomes a positive and dynamic aspect of a quality primary program.

References

Batzle, J. ***Portfolio Assessment and Evaluation***. California: Creative Teaching Press, 1992.

Bredekamp, S. (ed.) ***Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8*** (revised edition). Washington, DC: National Association for the Education of Young Children, 1992.

Bredekamp, S. and Rosegrant, T. (eds.) ***Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Volume 1***. Washington, DC: National Association for the Education of Young Children, 1992.

___. ***Developmentally Appropriate Assessment.*** Little Rock: Southern Association on Children Under Six, 1990.

Farr, R. and Tone, B. ***Portfolio and Performance Assessment.*** Fort Worth: Harcourt Brace College Publishers, 1994.

Gullo, D. F. ***Understanding Assessment and Evaluation in Early Childhood Education.*** New York: Teachers College Press, 1994.

Hills, T. W. ***Assessment in Context—Teachers and Children at Work.*** **YOUNG CHILDREN**, 48:20-28, 1993.

Meisels, S. J. ***Remaking Classroom Assessment with the Work Sampling System.*** **YOUNG CHILDREN**, 48:34-40, 1993.

Meisels, S. and Steele, D. ***The Early Childhood Portfolio Collection Process.*** Ann Arbor: Center for Human Growth and Development, University of Michigan, 1991.

Paulson, F., Paulson, P., and Meyer, C. ***What Makes A Portfolio?*** **EDUCATIONAL LEADERSHIP**, 46:60-63, 1988.

___. ***The Primary Program: Growing and Learning in the Heartland.*** Lincoln: Nebraska Department of Education, 1993.

Wiggins, G. ***A True Test: Toward More Authentic and Equitable Assessment.*** **PHI DELTA KAPPAN**, 70:703-713, 1989.

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WEEK OF THE YOUNG CHILD

The 1996 Week of the Young Child is scheduled for April 21-27. The week is designated as a time to focus public attention on the needs of young children and their families, and to support the early childhood programs and services that meet those needs. This year's theme is EARLY YEARS ARE LEARNING YEARS.. MAKE THEM COUNT! For more information contact the **National Association for the Education of Young Children** at 1-800-424-2460.

Wanted: Advocates for Play in the Primary Grades

Sandra J. Stone

With such strong proponents of play as a curricular choice [e.g., Bruner, Elkind, Piaget, and Vygotsky, in addition to the **Association for Childhood Education International** and the **National Association for the Education of Young Children**], one would think that play would enjoy a place of honor in our primary classrooms, where children participate in play as a cherished component of appropriate practice. However, what we find across our nation are educators who have or are unwillingly sacrificing play in their endeavor to reach prescribed academic goals. Even teachers who know the importance of play to a child's development find themselves on the defensive when questioned about play in their classrooms. We have become too embarrassed to give playtime a place because of "more important" curricular priorities. Hence, play is reduced to recess time, hidden in the curriculum, or tagged as miscellaneous "free time." Children who *need* to play (a need for all children) go undercover, hoping their play in the classroom will not be discovered; or even worse, children deny themselves the play they need in order to please those they love and respect.

To those who value play and understand its critical importance to the growth and development of young children, the question is how do we empower ourselves to become true advocates of play?

Involving Parents

Parents can be valued partners in creating and supporting quality play experiences for their children. A class newsletter informing parents and periodically highlighting the importance of children's play can be a useful educational tool. At informative parent meetings planned throughout the year, when we may normally discuss literacy development and math strategies, we can also share how play supports children's learning, growth, and development.

Teachers upgrade the importance of play by bringing it into the context of parent conferences. Letting parents see how play is integrated into our curriculum and how we use play to help each child in his development is valuable. This can include sharing each child's play experiences that document growth, for example, in imagination, problem solving, negotiation, and language development.

Parents can extend play at home. Teachers can help them see the importance of play in their children's learning and can make play kits for children to take home. These kits might be simple props for dramatic play, felt flannelboard figures to play out a favorite story, or puppets, Popsicle sticks, even playdough. Children can bring the kits back and tell about or demonstrate what they did at home. This type of homework for young children is extremely valuable.

We want to involve parents in planning play environments in the classroom or playground. One easy way is to send home requests for props for sociodramatic play, puppets, and art and building materials (see box). Inviting parents to observe or participate in the children's play and having them as partners strengthen our advocacy role.

Investigating Ways to Integrate Play Into the Curriculum

Play's integration into the curriculum can be done by creating a variety of play centers, not overlooking a home center for one. The home center is an acceptable play center in kindergarten, but it is not usually used in the [other] primary grades. However, it has continued value for 6- to 8-year-olds. Children are still developing language and narrative story. They continue to plan and make friends. They still need the support that play gives to a good self-concept. Unfortunately, just when young children are becoming "good players," the home center is removed from the classroom.

Besides providing a natural environment for language development, the home center welcomes literacy's integration.

Continued on page 4

Inviting Help from Parents for Dramatic Play

Dear Parents,

One of my goals for this school year is to increase the opportunities and materials for sociodramatic play. Research supports sociodramatic play as one of the most important forms of play because it involves the use of such skills as symbolic representation, perspective taking, precise use of language, cooperation, and sharing.

I have begun a collection of character boxes for the children's use in our housekeeping center. Each box contains some clothing, accessories, and props for creating an individual character. For example, the farmer box includes overalls, a flannel shirt, a straw hat, and a bandanna.

I need your help in completing the remaining characters. Please review the character list and return the bottom portion, indicating what character you and your child would be willing to work on and to donate to our classroom. You can find items at home (clean those closets!) or ask a neighbor or look at a secondhand store. I would appreciate it if you could work with your child to complete a single character; however, if you discover an item that would fit another character, please also send it in.

Thank you for your support of this project that will benefit your children. I'm looking forward to a wonderful year.

Character List

artist	doctor	painter
bride/groom	firefighter	pilot
business person	grocery clerk	police officer
cheerleader	hairdresser	postal worker
chef	judge/lawyer	prince/princess
circus performer	mechanic	teacher
construction worker	mountain climber	waitress/waiter
cowboy/cowgirl	musician	zookeeper

Or, name any other character you can think of!

Sincerely,

courtesy of Kim Huff and Kim Rimbey, Washington School District, Phoenix, Arizona, as presented by Sandra J. Stone in **YOUNG CHILDREN** (September 1995)

Wanted: Advocates

Continued from page 3

Note pads, pencils, recipe books and cards, phone, telephone book, magazines and books are supplies to be added. The home center creates a meaningful environment for functional use of literacy elements. Math may also be integrated into the home center by adding measuring cups and spoons. Introducing a toy "pet" and a pet care book incorporates social studies. The possibilities are endless.

Sociodramatic play centers in the primary grades are an excellent medium for children to act out favorite storybooks or curricular themes. Acting out stories using simple props supports wholistic retelling and demonstrates children's story sense. Thematic play centers are another wonderful educational tool for primary teachers. For example, a thematic unit on oceans lends itself to a play area complete with a submarine made from a box and underwater creatures painted by the children. In play centers like this that provide a meaningful setting, children use more elaborate vocabulary, such as words like submerge, periscope, depth, fathom, and sonar.

Children may also create their own play centers based on their interests. During this process, the children will invent, design, problem solve, and plan—all higher-order thinking skills.

Primary school children can play with flannelboard story figures from favorite storybooks. This enhances story sense, story sequence, and language use. They can make their own flannelboard story figures and create their own stories. Flannelboard story play is excellent rehearsal for a creative writing activity. Flannelboard pieces can also be used by children to play with numbers, create sets, and visualize mathematical operations such as multiplication.

There's no need to limit the types of centers in our classrooms just because we are teaching primary children. In an art or music center, children create, design, and invent. Even primary children continue to enjoy building at a blocks center. Their skills are becoming more refined and their projects more complex. How sad it is to deny them this creative time when their minds are envisioning magnificent structures, spaceships, and gadgets. We want to document the children's ingenuity and insights by photographing their creations or recording their ideas in anecdotal records.

Play may be infused into all the content areas of an integrated curriculum: setting up a store when studying economics, creating a rain-forest play center when studying the environment, and providing simple props for recreating history through sociodramatic play. With a few props, children become pioneers, archaeologists, and astronauts. As we evaluate our class environments (indoor and outdoor play), let's look at them with "playful" eyes. We can ask ourselves, "Where can play be added to support my children's cognitive, social, emotional, and physical growth?"

Sandra J. Stone, Ed.D., is an assistant professor in literacy and early childhood education at Northern Arizona University in Flagstaff and conducts research in the area of play and literacy. She is the author of ***Playing: A Kid's Curriculum*** (GoodYear Books). This article is an excerpt from a more comprehensive one of the same title, which appeared in the September 1995 issue of **YOUNG CHILDREN**. It is printed here with the express permission of Dr. Stone, who retains the copyright of this material. She may be contacted at 1422 W. University Heights Drive North, Flagstaff, Arizona 86001, (520) 523-4280.

Values of Play

Cognitive	Emotional	Physical	Social
• abstract thought	• acts as a medium for expressing thoughts/feelings	• motor development	• decentering
• divergent thinking	• softens the realities of the world	• balancing of systems	• practicing of social patterns
• creativity	• serves as a risk-free environment	• body command	• encouraging social interaction
• problem solving	• releases children's stress	• distance judgment	• learning to get along
• concept development	• decreases children's anxiety	• hand-eye coordination	
• perspective taking	• builds well-being/self-concept	• testing of bodies	
• language development		• self-assurance	

- Sandra J. Stone
YOUNG CHILDREN
(September 1995)

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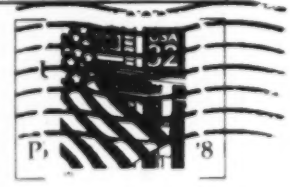

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CLASS-SIZE EFFECTS IN THE PRIMARY GRADES: RESEARCH IN TENNESSEE

In 1984 the Tennessee state legislature passed the Comprehensive Education Reform Act (CERA). Components of this piece of legislation included sections which addressed the teaching of basic skills and computer skills to students, the provision of merit pay and career ladders for teachers, and the establishment of Centers of Excellence in higher education, which began to focus on improving the teaching of basic skills in K-12 education.

Tennessee State University Study

One of the initial activities of the Center for Excellence founded at Tennessee State University was a study of the effects of a pupil/teacher ratio of 15:1 on students in grades 1-3. This project, begun in August 1984, focused on four kinds of student outcomes: achievement in reading and mathematics, behavior, attendance, and self-concept. The researchers also collected information on such teacher variables as attitudes and use of time. Seven first-grade classes, serving a total of 105 students, were created in an experimental school in Nashville. One control group consisted of 90 first-graders enrolled in a school serving a population similar to that of the experimental school. A second, blind control group of 105 students was chosen from among first-graders enrolled in 35 other elementary schools in metropolitan Nashville. Each subject in the blind control group was matched to a subject in the experimental group according to five preselected criteria.

> *This research leaves no doubt that small classes have an advantage over larger classes in reading and mathematics in the early primary grades.*
>
> - Jeremy Finn

To assess quantitative differences, researchers utilized the California Achievement Test; a comparison of pre- and post-test scores in reading and mathematics "showed statistically significant gains favoring students in the experimental groups."

Even though pupil achievement was a major focus of the study, teachers provided valuable qualitative information as well. For instance, they agreed that:

- "smaller classes were quieter, with fewer student interruptions;
- students in smaller classes showed more appreciation for one another and more desire to participate in classroom activities;
- potential disciplinary problems could be identified and resolved more quickly;
- more learning activities took place, and students participated more often in them;
- teachers had more time to monitor students' on-task behavior during the instructional process, and they were able to provide quicker and more thorough feedback to students, to reteach concepts as needed, and to provide in-depth instruction;
- greater individualization of instruction in the smaller classes significantly reduced the need for reteaching; and
- greater interaction among students helped them understand one another and increased their desire to assist one another."

Student/Teacher Achievement Ratio (STAR) Project

The study by Tennessee State University was instrumental in the Tennessee legislature's decision to investigate the issue of class-size on pupils in grades K-3 statewide. In 1985 the state's general assembly funded a major study and invited all Tennessee school systems to participate in the Student/Teacher Achievement Ratio (STAR) Project. Seventy-nine schools in 42 systems were selected to be part of a four-year longitudinal study. Student achievement and development were analyzed in three types of classrooms: (1) *small*, one teacher with a range of 13 to 17

Continued on page 2

Class Size

Continued from page 1

students; (2) *regular*, one teacher with a range of 22 to 25 students, and (3) *regular-with-aide*, one teacher with a range of 22 to 25 students and a full-time teacher aide. Participating schools agreed to not group students by ability and to assign teachers and students at random to one of the three kinds of classrooms. The 79 schools were classified according to four locations: inner-city, rural, suburban, and urban. Beginning with kindergartners in 1985-86 and ending with these children as third-graders in 1988-89, more than 6,000 students were involved each year.

Project STAR included a "within-school" design. Each of the 79 schools was required to have at least 57 students at the appropriate grade level and thus contain at least one of each type of class (small, regular, regular/aide). This design "reduced major sources of possible variation in student achievement attributable to school effects (i.e., community demographics, principal leadership, instructional materials, etc.)."

To measure student achievement, the study used the appropriate parts of the Stanford Achievement Test (K-3), STAR's Basic Skills Criterion Test (grades 1-2), and Tennessee's Basic Skills Criterion Test (grade 3). Student development was measured by the Self-Concept and Motivation Inventory (SCAMIN).

Overall findings of Project STAR indicated a "significant (statistically and educationally) achievement advantage (specifically in reading and mathematics) for students in small classes. The most pronounced effect occurred in the first grade.... Students in small classes consistently outperformed students in regular and regular-with-aide classes on all sub-scores of both achievement measures at every grade level (K-3), and in all four school-type locations."

Lasting Benefits Study (LBS)

To determine if the achievement gains realized as a result of small-class participation in Project STAR were maintained by students in later grades, the Tennessee Department of Education contracted with the Center of Excellence for Research in Basic Skills, at Tennessee State University, to conduct a longitudinal follow-up study. All Project STAR students had returned to regular-size classes beginning with the fourth grade. The Lasting Benefits Study (LBS) tracked the gains made by these students in the primary grades and assessed their lasting benefits on students' performance, as measured by state achievement tests in later grades.

The LBS used the Tennessee Comprehensive Achievement Program (TCAP) to measure academic achievement. The instrument was chosen because Tennessee requires all its schools to administer the TCAP at grades 2 though 8 and at grade 10. The TCAP, including both norm-referenced and criterion-referenced testing components, thus proved to be a consistent measure across schools.

The fourth-grade LBS results indicated that students who had been in Project STAR small classes continued to outperform those students who had been in regular and regular-with-aide classes on all achievement measures and across all school locations. Results of the analyses of students' fifth- and sixth-grade years showed that small-class students consistently did better than their peers who had been in the other two kinds of classes.

During their seventh-grade year (1992-93), "students previously in a small-size Project STAR class demonstrated that they had **statistically** significant advantages over students who were in other class types on every set of measurements.... Students from the small classes retained an **academic advantage** over students from regular and regular-with-aide classes. **The positive effects from involvement in a small-size class still remain pervasive four-full years after students returned to regular-size classes....** The statistically significant advantages for LBS seventh-grade students, who had been in Project STAR small classes, form a strong pattern of consistency. **Small-class students outperformed regular and regular-with aide class students on every academic measure."**

Such findings have led Donald Orlich to refer to Project STAR as "the most significant educational research done in the U.S. during the past 25 years" (PHI DELTA KAPPAN, 1991). Jeremy Finn, a nationally recognized educational statistician with the National Center for Educational Statistics, and his colleagues have written that the research provides "unambiguous evidence of a significant class-size effect" and that "few classroom-level interventions have been identified that have a consistent impact of this sort."

More information about the Student/Teacher Achievement Ratio Project and about the Lasting Benefits Study may be obtained by contacting Jayne Zaharias, Center of Excellence for Research in Basic Skills, Tennessee State University, 330 Tenth Avenue North, Suite J, Nashville, Tennessee 37203, (615) 963-7238.

> ***This experiment yields an unambiguous answer to the question of the existence of a class-size effect, as well as estimates of the magnitude of the effect for early primary grades.***
>
> **- Jeremy Finn**

References

Finn, Jeremy D., et al. (1990). *Three Years in a Small Class*. TEACHING & TEACHER EDUCATION, 6 (2): 127-136.

Nye, Barbara A., et al. (1994). THE LASTING BENEFITS STUDY: A CONTINUING ANALYSIS OF THE EFFECT OF SMALL CLASS SIZE IN KINDERGARTEN THROUGH THIRD GRADE ON STUDENT ACHIEVEMENT TEST SCORES IN SUBSEQUENT GRADE LEVELS: SEVENTH GRADE (1992-93) TECHNICAL REPORT. Nashville: Center of Excellence for Research in Basic Skills, Tennessee State University.

Nye, Barbara A., et al. (1994). POLICY AND PRACTICE BRIEF (No. 0004). Nashville: Center of Excellence for Research in Basic Skills, Tennessee State University.

Nye, Barbara A., et al. (1992). *Smaller Classes Really Are Better*. THE AMERICAN SCHOOL BOARD JOURNAL, 179 (5): 31-33.

Pate-Bain, Helen, et al. (1992). *Class Size Does Make A Difference*. PHI DELTA KAPPAN, 74 (3): 253-256.

Pate-Bain, Helen and C. M. Achilles (1986). Interesting Developments on Class Size. PHI DELTA KAPPAN, 67 (9): 662-665.

Word, Elizabeth, et al. (1990). PROJECT STAR: FINAL EXECUTIVE SUMMARY REPORT, KINDERGARTEN THROUGH THIRD GRADE (1985-1989). Nashville: Tennessee State Department of Education.

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Full-Day Kindergarten Proposed in Massachusetts

The Special Commission on Early Childhood for the Commonwealth of Massachusetts has issued its report to the state's legislature. Titled **Children First**, the report is "the product of an exhaustive study of the diverse systems which purport to care for our children. The direct long term benefits of a coordinated system will accrue to all economic and social classes. High quality programs reduce the need for welfare, remedial education and criminal justice systems." **Children First** recommends the coordination of a statewide early childhood care and education system to benefit children in Massachusetts, and submits a plan that provides access to affordable, quality, developmentally appropriate programs for each child.

The report offers four basic recommendations:

(1) "Support families with young children to ensure that all children enter school ready to learn.

A. Support the role of families in their children's care and education by linking together family outreach, education, and support programs for 3 and 4 year old children and linking them with programs for younger and older children.

B. Help the public understand high-quality care and education programs by developing a public awareness campaign.

C. Improve communication and responsiveness between families and early care and education providers and policymakers by conducting a series of family forums.

(2) Increase affordability and accessibility of early childhood programs for families.

A. Expand opportunities for 3 and 4 year olds by supporting the cost of early care and education through a sliding fee scale to be used by private programs, public school and Head Start programs.

B. Increase the feasibility of offering full-school-day kindergarten by supporting a grant program.

C. Strengthen the system of early care and education resource and referral.

D. Integrate information on early childhood programs and services for system management and for families by developing a single data management system for early childhood programs.

(3) Promote a consistent level of high quality programs for young children in a variety of early care and education settings.

A. Promote professional development of the early childhood practitioner by coordinating professional development projects.

B. Compensate early childhood practitioners with adequate wages and benefits to support themselves and their families.

C. Ensure that a basic level of quality program standards is followed by developing unified state standards applying to all early childhood programs.

(4) Develop a mechanism to expand early childhood care and education programs at the local and state levels.

A. Integrate early care and education programs at the community level through a process of community planning.

B. Integrate early care and education at the state level by moving toward the unification of disparate programs in different state agencies."

Children First incorporates the primary grades into its overview of the state of early childhood care and education in Massachusetts, by including the recommendation about kindergarten (2B). The report is explicit in defining "full-day" kindergarten as "full school day" and acknowledges that families with children in kindergarten still have a need for care for the full-working day, a need only partially addressed by the recommendations.

In the 1994 fiscal year, Massachusetts spent $177 million on both half-day and full-day kindergarten programs (approximately 27% of kindergarten children attended public full-day classes). The state's share was 35% of the total cost, $62 million. The state department of education estimates that the state and local cost of implementing full-school-day kindergarten programs statewide would be an additional $61 million (which does not include potential school building costs).

Because of the economics involved and the implications for redefining social policy, **Children First** recommends that the decision to establish full-school-day kindergarten be made at the local level (Recommendation 4A). In determining whether or not such a program is feasible, each community would need to consider:

- **"The needs of children in the community:** how are kindergarten children currently being served in the community, i.e., numbers of children in half-day and full-day public school and private kindergarten programs?
- **The cost of the program and funding** for a plan to serve kindergarten-aged children that has community and school committee support. The decision to offer full-school-day kindergarten will have implications for private providers of full-day kindergarten, families, and local taxpayers. (Private providers have met the needs of children and families for several years and their contributions, including wrap-around services, need to be taken into consideration.)
- **Building community support for the plan:** how can the community build a broad base of public support for full-school-day kindergarten?"

The report suggests that an ongoing, optional grant program could provide quality enhancement monies for both public and private full-school-day kindergartens, and thus facilitate the development of such programs, as well as increase the quality in existing classrooms. Programs would be able to lengthen the school day, provide a teaching assistant, lower class size, purchase additional developmentally appropriate materials, and/or offer inservice training. Such grants, with a maximum of $18,000 per classroom, would cost $24.4 million and provide an additional 1,350 full-day classes. Communities that included the provision of full-school-day kindergarten in their community plans (Recommendation 4A) would have priority for the grants.

Children First: A Plan for an Early Care and Education System for Massachusetts/Report of the Special Commission on Early Childhood (December 1995) is available from the Massachusetts Department of Education, 350 Main Street, Malden, Massachusetts 02148. Refer to Publication #17798-32-6M-12/95-DOE.

Multiyear Programs

The opportunity for teachers to better individualize curriculum and instruction is one of the benefits of multiyear programs. Such programs are often referred to as "looping." A class that loops stays together for at least two years and sometimes for a longer period of time. In addition to facilitating curriculum and instruction, looping can improve student learning by reducing the apprehension about the new school year and by providing students with more time to build relationships with their teacher(s) and their peers.

Writing in ***"Multiyear Education: Reaping the Benefits of 'Looping,'"*** Kathy Checkley cites children's development as self-directed learners, and the increased comfort levels of parents and children, as means through which looping can help build a sense of community among students, teachers, and families. Such a learning environment, emphasizing co-operation and collaboration, can parallel the family environment and provide "life skills, skills all of us have to employ every day," according to Lilian Katz. Katz, professor of early childhood education at the University of Illinois at Champaign-Urbana, suggests that a looping schedule can create a sense of family and thus provide students with a sense of stability.

"We're always talking about individualizing instruction," says Sue Bredekamp, director of professional development for the National Association for the Education of Young Children (NAEYC). "But you can't individualize instruction until you know the individuals." Multiyear programs allow for the building of those personal relationships that are the foundation for young children's learning, and looping provides time for teachers to know their students.

Multiyear programs may exist because declining student enrollment has necessitated that schools loop and use multi-age approaches in order to fill classrooms. Sometimes multiyear programs are created as teachers voluntarily change grade levels, or they may come into existence as schools develop strategies to deal with frustrations in staffing and scheduling. Even though looping does exist, for a variety of reasons, Checkley states that "there is not sufficient data to support what many educators contend: that multiyear programs have a profound impact socially and instructionally." She cites a caution expressed by Lilian Katz: "We need some good research. We need a good close study of how this [looping] might be effective.... What practices enable teachers to optimize the benefits of such programs?"

Kathy Checkley's article, ***"Multiyear Education: Reaping the Benefits of 'Looping,'"*** appeared in the November 1995 issue of **ASCD's Education Update** (Volume 37, Number 8). The **Association for Supervision and Curriculum Development (ASCD)** may be contacted at 1250 N. Pitt Street, Alexandria, Virginia 22314-1453, (703) 549-9110.

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SCAFFOLDING IN THE ZONE OF PROXIMAL DEVELOPMENT

Elena Bodrova, Ph.D. and
Deborah J. Leong, Ph.D.

Some of the most often asked questions about the Zone of Proximal Development (ZPD) are "How do I know what is within this child's ZPD?" and "How do I know what is the right assistance; how do I know when to withdraw it?" We hope that this article will address these questions directly and provide some ideas about how to make use of the ZPD as adults teach children.

The ZPD is the Vygotskian concept that defines the space between the child's level of independent performance and the child's level of maximally assisted performance (figure 1) (Bodrova & Leong, 1996; Vygotsky, 1978). Skills that are fully developed exist at the level of independent performance, and those skills that are on the edge of emergence are located within the ZPD. As the child masters a new task, what he could do with assistance yesterday is what he can do independently today. Vygotskians believe that at any given moment there are things that lie outside of the child's ZPD; thus, no matter what assistance is given, the child will not be able to learn them. **When teachers aim only at the independent level of performance, the result is that children practice only what they already know.** Over the long term, solely providing activities for this independent level leads to boredom. On the other hand, **if the teacher aims consistently too high or outside of the ZPD, this can lead to frustration** and to the child giving up because "it's too hard." Vygotskians believe that aiming within the ZPD challenges the child, but also provides the support to insure successful learning.

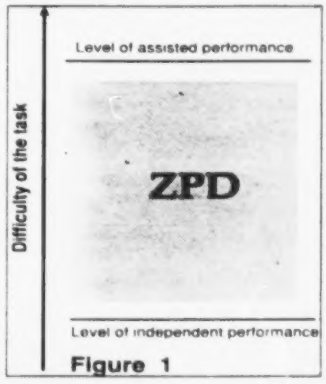

Figure 1

Knowing What Lies Within A Child's ZPD

In any given classroom, there are two types of ZPD—one is the ZPD for the class as a whole, and the other is the ZPD for individuals within the class. The ZPD for a class is generally approximated by the teacher from her past experience at a specific grade level, the expectations set by the grade-level curriculum, and any standards that may have been developed. Communication with teachers from the previous grades can also help the teacher to aim at the appropriate class ZPD. The class ZPD sets the sequence in which the various skills/concepts/strategies are presented, as well as defines the types of activities to be used. As the teacher gets to know the children and learns what they can do as a group, the approximated ZPD becomes more accurate and exact.

Within each classroom ZPD, however, there are many individual ZPD's; identifying each of these areas is where teachers have the most trouble. There may be differences between the ZPD's of two children, but any given child may also have a different ZPD for different activities. For example, Joann's ZPD in math may differ from her ZPD in reading. We recognize that **determining the ZPD's for each individual child is an overwhelming task, but at the same time, when we work within each child's ZPD, we waste less time, see more progress, and have children who are challenged without being frustrated** (Berk & Winsler, 1995; Tharp & Gallimore, 1988).

Individual ZPD's can be approximated by using initial assessments that teachers do at the beginning of the year, information collected during the previous year, or the child's reaction to activities designed for the class ZPD. The word *approximated* is very important because the teacher must form a *tentative* idea about what the ZPD is, and this idea must then be *verified* by interaction with that child or observation of the child.

Continued on page 2

Scaffolding

Continued from page 1

Once an approximation has been made, the teacher can vary the context to find the boundaries of the ZPD. By "varying the context," we mean observing the child using the skill alone, with peers of the same and different levels of expertise, with different materials, or with the teacher. For example, sometimes a child who is reluctant to read aloud to a teacher will show her most mature skills while reading to a younger child. We are not advocating developing tests for each context; but we do advocate for the classroom having enough variety in the contexts, which are used to teach the child, to enable the teacher to examine the ZPD. Having too few child-directed activities, or a limited number of opportunities for peers to cooperate during learning, is just as limiting as having too few teacher-guided experiences. In both cases some of the children will not be able to demonstrate the maximum they are capable of doing.

Even with a variety of learning contexts, teachers must be vigilant and watch for those demonstrations of learning which do occur. We have found that sometimes we tend to see these moments as "anomalies" or times when we say, "She never does that," instead of asking ourselves, "What were the things in this context that better facilitated the learning than what we do normally?" A child, for example, who has a hard time staying on task spends an hour at the computer working hard. What is it about the computer that makes it much easier for this child? What are the things from that context that we can use to support him?

Vygotskians believe that the teacher must be very sensitive to the child's actions and reactions in the learning process, and make adjustments to teaching based on this information. When children show a great deal of frustration, parrot responses, and don't seem to progress even after changing contexts several times, then what is being taught may lie outside the ZPD. Teachers need to listen and trust their knowledge and experience with each child. Barreling ahead, ignoring this information will not lead to learning. On the other hand, teachers don't need to be afraid if their approximation of the child's ZPD was incorrect. ***Sensitive* probing of the ZPD's boundaries does not harm a child's development, but failing to adjust teaching does.** Once we have an approximation of the child's ZPD, then the next task is discovering how to provide support that will help the child to learn.

Knowing What Is The Right Assistance

The right assistance is not only what helps the child in the short run, but also what builds the skill/concept of the future. For example, when a child makes an error, the teacher can give the correct answer; in the short run this response will probably result in a completed student assignment. Or, the teacher can give the child a strategy that requires several attempts before the child can "get it." For Vygotskians it is the strategy that is the appropriate assistance, even though the child may make several more erroneous attempts before she can really use it. Another example of assistance is pairing a child with another child who is much more capable and who actually takes over the situation, allowing the learner few opportunities to make mistakes. The learner might feel good that he was able to produce a successful project, but Vygotskians believe that such assistance will not guarantee a transfer of skills. To determine what is the right assistance, the teacher must reflect on what the child is supposed to learn. Is the goal to answer correctly this time, or is it to learn the skill well enough to perform it independently in the future?

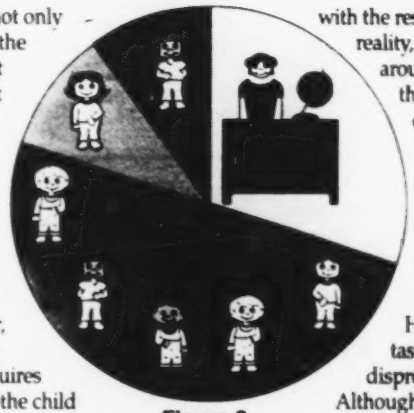

Figure 2

Assistance must be provided in such a way that the child is actively involved. To learn, the child can not just respond, but must actively construct and make meaning. To illustrate what this means, think of the learning task as a pie with "shares" for each of the participants. In the best case the child has a large share in the interaction, whether he is being supported by the teacher, a peer, or the group (figure 2). In a first-grade class, the children are reading a big book, and the teacher wants the children to say the repeating refrain of the story from memory. Jason always says the refrain first. For him the share of the learning task is disproportionate (figure 3). In the same class Penny seems to always say the refrain with the rest of the children; in reality, she looks at the children around her, and only after they have said the refrain does she repeat the last word. She looks engaged, and her mouth is moving, but if the teacher were to listen attentively, he would see that Penny is not really very active. Her share of the learning task is also disproportionate (figure 4). Although she does learn something from this context, Penny would learn much faster in a setting where she is more active and where she doesn't let the other children act for her. The assistance in this case is not appropriate for her.

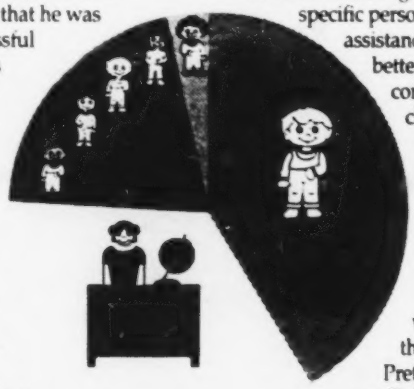

Figure 3

Assistance can be provided by many sources. It helps to consider the entire context as assisting the child rather than a specific person providing such assistance. Some children do better in the whole group context, where other children model what to do, than when they are required to do the same task on their own. For others, especially preschoolers and young kindergartners, play may be the context which best supports their learning (Berk, 1994). Pretending to read to a stuffed animal or counting pretend cookies may help support the acquisition of letters and numbers better than more "academic" settings.

Assistance should be planned in such a way that it can gradually be withdrawn over time, as the child is able to perform independently. When a group of children is having trouble taking turns, the teacher must provide assistance so that the children will eventually be able to monitor turn-taking to the group's satisfaction on their own. If the teacher just tells the children, "You go first, you go second..." and so on, the children will not be able to monitor themselves without her, when she leaves or withdraws assistance. If she teaches them a rhyme or how to pull straws to determine who goes first, the children can then use the rhyme

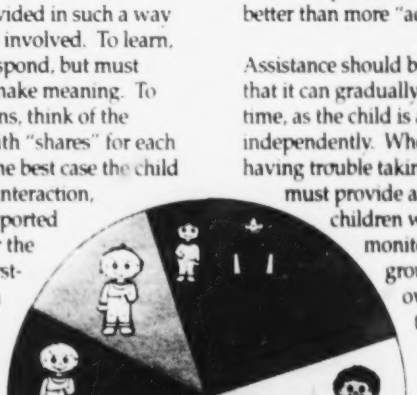

Figure 4

Scaffolding

Continued

or straws to decide on their own. The teacher plans this assistance and makes the straws or rhyme available in order for her to be able to turn over responsibility to the children.

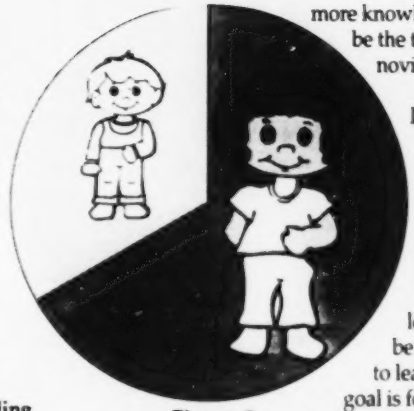

Figure 5

Knowing When To Provide And When To Withdraw Assistance

The concept of **scaffolding** introduced by Wood, Bruner, and Ross (1976) is the answer to our last question about when is the right time to give assistance and how it should be withdrawn. When a building is constructed, a scaffold with the size and shape of the future building is created. In the initial stages, the contractor provides more scaffolding than in later stages, when the walls are established and the foundation is secure. If the scaffolding is removed too early, the building will suffer. If the scaffolding is not removed, the contractor will not be able to construct another building.

In teaching, teachers provide more support at the beginning stages of skill/concept formation. **If the support is removed too early, the child may have incomplete or incorrect understandings. If the supports are left too long, the child will not be encouraged to move on to new learning.**

Figure 6

Builders are in a better position to concretely experience what happens when scaffolding is not removed appropriately—the building falls down. For teachers, it is much more difficult to think about how to support learning, a process that can only be inferred from the child's performance. For this reason we have found it helpful to think about providing and removing scaffolding in terms of changing the size of the "shares" of the task, in which the learner and the person(s) providing the scaffolding are involved. To illustrate this idea, think about an expert/novice learning context. The expert is a more knowledgeable person and can be the teacher or a peer. The novice is the learner or child.

Figure 7

In the initial stages of learning, the task is divided somewhat unequally (figure 5). As can be seen, the expert has more than half of the responsibility for the task, but the learner/novice must also be actively involved in order to learn. Remember that the goal is for the learner to acquire the strategy, not to just parrot the correct answer after the expert. It is the expert's role to make sure that the learner is acquiring the new skills.

Then, as the learner becomes more competent, the expert begins to withdraw support. The task itself is not changed, but the distribution of the "shares" representing the amount of responsibility has. The expert withdraws assistance, and the learner must fill in the missing pieces (figure 6).

Finally, when the learner has mastered the skill/concept/strategy, the expert no longer plays a role in the task—it is the learner alone (figure 7).

A simple example of this scaffolding can be found in Mr. Nick's classroom, where children are making macaroni necklaces. At the beginning, Mr. Nick has to guide both of Marissa's hands, pushing the string through the piece of macaroni, as he explains, "You hold it like this so the string won't fall out." As the child becomes more competent, the teacher sets the macaroni in her hand in the correct way, but Marissa is the one who pushes the string through. Finally when she seems to have mastered the stringing, Mr. Nick no longer offers help, but just comments on the finished product. The task—making the necklace—doesn't change, but the distribution of activity does.

We have found the concepts of ZPD and scaffolding to be helpful to teachers, as they address the many individual needs of children in their classrooms. By using these concepts as tools, teachers can challenge children in appropriate ways and help them to enjoy learning.

References

Berk, L. E. ***Vygotsky's Theory: The Importance of Make-Believe Play.*** **YOUNG CHILDREN**, 50 (1): 30-39, 1994.

Berk, L. E. & Winsler, A. ***Scaffolding Children's Learning: Vygotsky and Early Childhood Education.*** **NAEYC RESEARCH AND PRACTICE SERIES (7).** Washington, DC: National Association for the Education of Young Children, 1995.

Bodrova, E. & Leong, D. J. **Tools of the Mind: The Vygotskian Approach to Early Childhood Education.** Englewood Cliffs, New Jersey: Merrill/Prentice Hall, 1996.

Bodrova, E. & Leong, D. J. ***Vygotsky's Zone of Proximal Development.*** **OF PRIMARY INTEREST**, 2 (4): 1-3, 1995.

Tharp, R. G. & Gallimore, R. **Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context.** Cambridge: Cambridge University Press, 1988.

Vygotsky, L. S. **Mind and Society: The Development of Higher Mental Function.** Cambridge, Massachusetts: Harvard University Press, 1978.

Wood, D., Bruner, J. C., & Ross, G. ***The Role of Tutoring in Problem Solving.*** **JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY**, 17: 89-100, 1976.

Dr. Elena Bodrova is Visiting Professor, Department of Psychology, and Dr. Deborah Leong is Professor of Psychology, at Metropolitan State College in Denver. Acknowledged experts about Vygotsky's educational theories, they continue to study, teach, and write about the implementation of his theory in classroom practice. Their article, ***Vygotsky's Zone of Proximal Development***, published in the Fall 1995 issue of **OF PRIMARY INTEREST**, provides a basic definition of the ZPD; identifies its dynamics, variations, and limits; and discusses its use in the classroom. Drs. Bodrova and Leong have written this article expressly for **OF PRIMARY INTEREST** and retain the copyright. They may be contacted at Department of Psychology, Metropolitan State College, Campus Box 54, P. O. Box 173362, Denver, Colorado 80217-3362, (303) 556-3205.

Resources About Vygotsky

Berk, L. E. & Winsler, A. ***Scaffolding Children's Learning: Vygotsky and Early Childhood Education.*** **NAEYC RESEARCH AND PRACTICE SERIES (7).** Washington, DC: National Association for the Education of Young Children, 1995.

Bodrova, E. & Leong, D. J. **Tools of the Mind: The Vygotskian Approach to Early Childhood Education.** Englewood Cliffs, New Jersey: Merrill/Prentice Hall, 1996

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Professional Development Opportunities at NAEYC Annual Conference

At the **National Association for the Education of Young Children (NAEYC) 1996 Annual Conference** in Dallas, one-hour sessions are designated in various categories or tracks. Sessions are listed in the conference program under a track heading which indicates their dominant theme. Among the 41 tracks from which participants can choose are ones dealing with Assessment/Portfolios/Observation, Child Development, Curriculum, Exceptional Children, Kindergarten/Primary, Mixed/Multi-Age, Multiple Intelligences, and Public Schools.

In addition to the one-hour sessions in the Kindergarten/Primary track, there are several networking, preconference, seminar, and evening presentations which have been planned by members of **NAEYC's Primary Grades Interest Group** and by members of the **National All Day Kindergarten Network**. These special sessions include the following:

- *The Child-Centered Primary School: Turning Developmental Theory Into Classroom Practice* - a visit to a local elementary school in Dallas, designated as a "blue ribbon" school by the U.S. Department of Education, where there will be an opportunity for participants to engage in focused classroom observations and dialogue with members of the school staff; on Wednesday, 20 November, 8:00 AM to 12:30 PM
- *Learning Planning and Brain Research: Creating a Positive Environment for the Success of All Children* - an interactive session, demonstrating the significance of current brain research, in which participants will look at how the brain functions, teaching strategies, and meaningful content (developmentally appropriate curriculum) in developing positive learning environments for the success of all children; on Wednesday, 20 November, 2:00 to 4:00 PM
- *Accreditation for the Primary Grades* - a seminar focusing on challenges as well as supports for the accreditation of programs for children in the primary grades, in which participants will make recommendations to schools, programs, and to **NAEYC** for future steps in the expansion of an accreditation system; on Thursday, 21 November, 11:00 AM to 1:00 PM
- *Meaningful Learning in the Primary Grades: Connecting Curriculum and Assessment* - a session providing an opportunity for participants to hear and discuss issues, strategies, and models related to the critical connection of curriculum and assessment, in implementing developmentally appropriate practice; on Thursday, 21 November, 7:00 to 9:00 PM
- *Understanding and Implementing the All-Day Kindergarten: A Case Study Approach* - a seminar in which participants will address continuing topics and dilemmas related to the implementation of an all-day program for five-year-olds, ranging from curriculum areas to parental concerns, assessment to advocacy; on Friday, 22 November, 8:30 to 10:30 AM.

Reservations are necessary for the visit to the primary program on Wednesday, and may be obtained by contacting Frank Fielden (Colorado) at 303-866-6674 (voice) or 303-866-6662 (fax). Participants do not need to preregister for any other presentation. Other representatives of **NAEYC's Primary Grades Interest Group** and the **National All Day Kindergarten Network**, who may be contacted for information, are: Ken Counselman (New York) 914-257-2867, Sue Cruikshank (Connecticut) 203-834-1251, Anita McClanahan (Oregon) 503-378-5585, ext. 665, and Susan Nall (Illinois) 618-692-3082.

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Starting Points for Implementing Developmentally Appropriate Practices in the Primary Grades

During a session sponsored by the **Primary Grades Interest Group**, at the 1995 Annual Conference of the **National Association for the Education of Young Children,** David Burchfield offered ideas which enable "schools and school systems to successfully transform practice into more meaningful and child-focused educational experiences." Burchfield suggested specific recommendations in the areas of the classroom, the school, and the community. These starting points are:

for classroom-based practitioners

1. Tap the power of play by offering children some choices, and by allowing them to be involved in planning, directing, and evaluating their work and play.
2. Connect meaningful objectives (knowledge, skills, and attitudes/dispositions) into units of study, and teach other objectives in mini-lessons and skills-based lessons.
3. Explore a learning progression or cycle, in themes and units of study, that is based on how children learn.
4. Implement a cycle in each learning time during the day that allows for planning, work/play, and sharing and closure.
5. Seek training in and implement a Writer's Workshop in order to develop children's authorship and writing ability.
6. Invite parents to be partners, to give input about their children, and to help set goals.
7. Consider conducting community meetings to learn to give compliments, solve problems, and plan upcoming events.
8. Practice describing individual children in an effort to make the fundamental shift away from "grade-leveled thinking" towards child-focused and child-sensitive thinking and practice.
9. Develop a balanced approach to the acquisition of reading/decoding strategies in young children and the philosophy of building on children's strengths.

for schools and school systems

1. Involve administrators and supervisors in the development of the rationale for the implementation of developmentally appropriate practices and in inservice opportunities.
2. Provide staff in schools with opportunities to talk about children and teaching and learning.
3. Align curricular goals and instructional strategies with assessment and communication procedures.
4. Break down traditional barriers between people in schools and school systems (between kindergarten and first grade, primary and intermediate grades, special and regular education) by making inservice and conversations inclusive.

for communities involved in the care and education of young children

1. Learn more about, develop, come to understand, and be able to articulate beliefs about what children are like and how they learn.
2. Involve key community members and stakeholders in a series of workshop/conversational sessions in which members describe their children, learn about current child development theory, and discuss and come to consensus about the consequent practices that should flow from what has been learned.

Burchfield elaborates on four of the starting points for classroom-based practitioners in an article entitled ***"Teaching ALL Children: Four Developmentally Appropriate Curricular and Instructional Strategies in Primary-Grade Classrooms,"*** in the November 1996 issue of **YOUNG CHILDREN.**

David Burchfield is an early childhood teacher, consultant, and administrator. He is one of the contributors to ***Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Volume 1,*** and his classroom is featured on NAEYC's video **Developmentally Appropriate First Grade: A Community of Learners**. He may be contacted at 309 Victoria Drive, Bridgewater, Virginia 22812, (540) 828-4436.

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The Influence of Child Care Quality on Kindergarten Success

"Every day, five million American children attend child care. Indeed, forty percent of all American youngsters spend some of their preschool months in child care."

Parents and teachers of children in the primary grades especially are aware of these increasing numbers of preschoolers, who are in child care prior to their beginning elementary school. For example, the impact which child care programs, both in the private and public sectors, have on children and their families is discussed when transition plans are developed for preschoolers as they enter kindergarten. As child care has become an essential element in the nation's culture, current and accurate information about child care quality, costs, and child outcomes has become necessary. Now, as a part of these data-gathering efforts, research is looking at what impact the quality of a preschool child's experiences in child care has on her/his success in the kindergarten classroom.

Cost, Quality, and Child Outcomes in Child Care Centers is a comprehensive study of center child care in four states: Los Angeles County, California; the Front Range in Colorado; the New Haven/Hartford corridor in Connecticut, and the Piedmont Triad in North Carolina. Researchers from the University of Colorado at Denver, the University of California at Los Angeles, the University of North Carolina at Chapel Hill, and Yale University collected and analyzed data during 1993 and 1994. In total, data were collected from 401 centers and 826 preschool-aged children attending a subsample of these centers.

In the research design an intensive, on-site study was conducted of centers in four fairly representative states with varying licensing standards and demographic and economic characteristics. Taken together, the results for a given state are representative of other states with similar characteristics.

Previously published findings from the study regarding the quality of child care services have included the following:

- Child care at most centers in the United States is poor to mediocre, with almost half of the infant and toddler rooms having poor quality.
- Only one in seven centers provides a level of quality that promotes healthy development. Child care in one in eight centers threatens health and safety. **Seven in ten centers are providing mediocre care which may compromise children's ability to enter school ready to learn.** Infants and toddlers fare worse. Forty percent of the infant and toddler rooms were observed to endanger children's health and safety. Only one in 12 infant and toddler rooms are providing developmentally appropriate care.
- The quality of child care is primarily related to higher staff-to-child ratios, staff education, and administrators' prior experience. In addition, teachers' wages, their education and specialized training were the most important characteristics that distinguish poor, mediocre, and good-quality centers.
- States in this study with more demanding licensing standards have fewer poor-quality centers; centers that comply with additional standards beyond those required for basic licensing (such as those required for funding or accreditation) provide higher quality services.
- Centers with extra resources used them to improve quality.

The researchers in the ***Cost, Quality, and Child Outcomes*** study are, however, interested in discovering long-term effects of the quality of preschool experiences on children, as well as short-term ones. The preschool children who were observed are being followed through their kindergarten, first-grade, and second-grade years in elementary school. Because of this longitudinal element, some of the data has not yet been gathered; other data have been obtained but not yet analyzed; and new findings are released periodically.

In a session entitled ***"The Influence of Child Care Quality on Preschool and Early School Outcomes for Children,"*** held at the 1996 Annual Conference of **the National Association for the Education of Young Children,** members of the research team presented information about what kind of kindergarten year these children, in fact, experienced. An examination of the data shows that the quality of the child care, which they received as preschoolers, generally positively affected the children as kindergarteners in such areas as:

- § pre-academic skills (reading and math),
- § receptive language skills,
- § social/behavioral skills, and
- § attitudes/perceptions.

Specifically, the quality of preschool child care positively impacted language development of these children when they were in kindergarten, regardless of the quality of the kindergarten program. Another outcome is

Position Statement on Interdisciplinary Learning, Pre-K - Grade 4

Recent calls for educational reform focus on the need for curricula emphasizing conceptual learning that is integrated across traditional subject areas. Responding to this need, the major national subject-matter organizations—the **National Council of Teachers of Mathematics**, the **National Council of Teachers of English**, the **International Reading Association**, the **National Science Teachers Association**, the **National Council for the Social Studies**, the **Speech Communication Association**, and the **Council for Elementary Science International**—met to discuss and develop guidelines for integrating the curriculum from Pre-K - Grade 4. A result of their discussions is this position statement, which outlines the principles that should guide the implementation of an integrated curriculum.

Basic to this effort is the belief that educational experiences are more authentic and of greater value to students when the curricula reflect real life, which is multifaceted—rather than being compartmentalized into neat subject-matter packages. Interdisciplinary instruction capitalizes on natural and logical connections that cut across content areas and is organized around questions, themes, problems, or projects rather than along traditional subject-matter boundaries. Such instruction is likely to be responsive to children's curiosity and questions about real life and to result in productive learning and positive attitudes toward school and teachers.

The participating organizations believe that educational experiences should help develop children's natural curiosity and their inclination to construct meaning. A focus on relationships across disciplines should encourage creative problem solving and decision making because it makes available to students the perspectives, knowledge, and data-gathering skills of all the disciplines. Such an instructional process should also encourage children to interact with others in a learning community where diversity of thought and culture is valued.

With the above statements in mind, the participating organizations recommend the following guiding principles.
Interdisciplinary Pre-K - Grade 4 curricula should:

1. **Maintain the integrity of content drawn from the disciplines by using meaningful connections to sustain students' inquiry between and among those disciplines.** Interdisciplinary instruction should be authentic and worthwhile. It is important for students to develop familiarity with the

that closeness between preschoolers and their child care providers positively affected the children's cognitive skills in kindergarten, regardless of what type of interactions they experienced with their kindergarten teachers.

Such findings as these in kindergarten, as well as the outcomes experienced in first and second grade (longitudinal data which are now being gathered and/or analyzed), are critical. It may be important to consider the research of these professionals when such federal programs as Head Start and Title I emphasize quality experiences. The outcomes may inform discussions, involving parents and teachers of children in the primary grades, as individual states develop content standards, and debate occurs about how children should meet such standards.

Published findings in the ***Cost, Quality, and Child Outcomes in Child Care Centers*** study are available in three formats: an Executive Summary ($8.00 each), a 90-page Public Report ($15.00 each), and a 500-page Technical Report ($40.00 each). The reports are available from the Economics Department, University of Colorado at Denver, Campus Box 159, P. O. Box 173364, Denver, CO 80217-3364, (303) 556-4934 (voice), (303) 556-3547 (fax).

Top 10 Signs of a Good Kindergarten Classroom

Kindergarten is a time for children to expand their love of learning, their general knowledge, their ability to get along with others, and their interest in reaching out to the world. While kindergarten marks an important transition from preschool to the primary grades, it is important that children still get to be children — getting kindergarteners ready for elementary school does not mean substituting academics for play time, forcing children to master first grade "skills," or relying on standardized tests to assess children's success.

Kindergarten "curriculum" actually includes such events as snack time, recess, and individual and group activities in addition to those activities we think of as traditionally educational. Developmentally appropriate kindergarten classrooms encourage the growth of children's self-esteem, their cultural identities, their independence, and their individual strengths.

> Because children differ in experiences and background, they do not learn the same things at the same time in the same way.

Kindergarten children will continue to develop control of their own behavior through the guidance and support of warm, caring adults. At this stage, children are already eager to learn and possess an innate curiosity. Teachers with a strong background in early childhood education and child development can best provide for children what they need to grow physically, emotionally, and intellectually.

Here are 10 signs of a good kindergarten classroom:

1. Children are playing and working with materials or other children. They are not aimlessly wandering or forced to sit quietly for long periods of time.
2. Children have access to various activities throughout the day such as block building, pretend play, picture books, paints and

Continued on page 4

knowledge, assumptions, and methods of inquiry used in many subject-matter areas in order to be able to select that which is most appropriate for any given situation. Major concepts and methods from the various disciplines should be taught as part of integrated units and at times that are appropriate to students' interests and cognitive and social development.

2. **Foster a learning community in which students and teachers determine together the issues, questions, and strategies for investigation.** An appropriate balance should be maintained between student-initiated and teacher-initiated learning experiences.
3. **Develop democratic classrooms.** Select curricula and organize classrooms that will cultivate a learning community in which students develop both independence as investigators and the ability to collaborate with each other and with teachers to raise questions, investigate issues, and solve problems. Students should be encouraged to assume increasing responsibility for their learning so that they can gain confidence in their abilities to find information, understand and articulate ideas, and make decisions.
4. **Provide a variety of opportunities for interaction among diverse learners—for example, discussion, investigation, product development, drama, and telecommunications.** Collaborative interaction among students who differ in abilities, perspectives, experiences, ethnicity, and interests promotes learning for all students and fosters positive attitudes towards others and toward learning.
5. **Respect diversity of thought and culture.** Students should learn by employing a variety of learning strategies, engaging in a wide range of learning experiences, and examining many and varied perspectives.
6. **Teach students to use a wide variety of sources, including primary sources, oral communication, direct observation, and experimentation.** The use of multiple and diverse sources accommodates various learning styles, interests, and abilities; teaches the importance of cross-checking for accuracy and bias; and develops students' ability to choose the most appropriate and productive sources for investigating specific questions or problems.
7. **Use multiple symbol systems as tools to learn and present knowledge.** These can include symbols used in language, mathematics, music, and art, as well as those that translate knowledge into tables, charts, and graphs.
8. **Use wide-ranging assessments to evaluate both the processes and outcomes of student learning.** Ongoing assessment during the inquiry process should lead students and teachers to determine what criteria can be used to identify quality work. Decisions about instruction should be based on a variety of formal and informal assessment strategies that move beyond the exclusive use of objective measures to include observation, portfolios, and performance assessments.

An interdisciplinary education which draws from the knowledge and processes of multiple disciplines should encourage students to become active learners equipped with the analytical, interpretative, and evaluative skills needed to solve real-life problems. Eliminating artificial barriers among subject areas gives students a broader context for solving real-life problems.

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Top 10 Signs of a Good Kindergarten Classroom

Continued from page 3

other art materials, and table toys such as legos, pegboards, and puzzles. Children are not all doing the same things at the same time.

3. Teachers work with individual children, small groups, and the whole group at different times during the day. They do not spend time only with the entire group.
4. The classroom is decorated with children's original artwork, their own writing with invented spelling, and dictated stories.
5. Children learn numbers and the alphabet in the context of their everyday experiences. Exploring the natural world of plants and animals, cooking, taking attendance, and serving snack are all meaningful activities to children.
6. Children work on projects and have long periods of time (at least one hour) to play and explore. Filling out worksheets should not be their primary activity.
7. Children have an opportunity to play outside every day that weather permits. This play is never sacrificed for more instructional time.
8. Teachers read books to children throughout the day, not just at group story time.
9. Curriculum is adapted for those who are ahead as well as those who need additional help. Because children differ in experiences and background, they do not learn the same things at the same time in the same way.
10. Children and their parents look forward to school. Parents feel safe sending their child to kindergarten. Children are happy; they are not crying or regularly sick.

Individual kindergarten classrooms will vary, and curriculum will vary according to the interests and backgrounds of the children. But all developmentally appropriate kindergarten classrooms will have one thing in common: the focus will be on the development of the child as a whole.

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While kindergarten marks an important transition from preschool to the primary grades, it is important that children still get to be children—getting kindergarteners ready for elementary school does not mean substituting academics for play time.

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The Effects of Positive Transitions on Early Literacy

The report of the California Reading Task Force, ***Every Child A Reader***, and the subsequent reading advisory ***Teaching Reading***, recommends strong collaboration between preschool and K-12 educators to effect reading reform (Recommendation 6). It also recommends planning and coordination at the state and local levels to ensure effective transitions into kindergarten. Although positive transitions may not *directly* result in reading success for each child, the task force members recognize their potential to enhance early literacy development.

When preschool staff provide a developmentally appropriate literacy curriculum and elementary school staff build on previous literacy experiences, children become more successful readers. Research indicates that children who become successful readers tend to share many of the following characteristics, all of which have implications for early childhood programs:

When preschool staff provide a developmentally appropriate literacy curriculum, and elementary staff build on previous literacy experiences, children become more successful readers.

1. They have had 1,000 or more hours of literacy experiences prior to starting school, including demonstrations, shared storybook reading, literacy play, alphabet games and songs, phonemic awareness activities, and explorations of letters and print. (Patricia M. Cunningham and Richard L. Allington, ***Classrooms That Work***. New York: HarperCollins College Publisher, 1994, p. 22)

2. They love reading and books and see the purpose of reading. (Marilyn J. Adams, ***Beginning to Read: Thinking and Learning About Print***. Cambridge: Massachusetts Institute of Technology, 1990, pp. 60-61)

3. They have participated in phonemic awareness activities. (H. K. Yopp, ***"Developing Phonemic Awareness in Young Children,"*** THE READING TEACHER, May, 1992; J. K. Torgesen and Brian R. Bryant, ***Phonological Awareness Training for Reading***. Austin, Texas: PRO-ED, 1994; C. Juel, ***"Learning to Read and Write: A Longitudinal Study of Fifty-Four Children from First Through Fourth Grade,"*** JOURNAL OF EDUCATIONAL PSYCHOLOGY, Vol. 80 [1988], pp. 437-447)

4. They have been included in conversations and treated as competent language partners. (Judith A. Schickedanz, ***More Than the ABCs—The Early Stages of Reading and Writing***. Washington, DC: National Association for the Education of Young Children, 1988, p. 3)

5. In play activities, they have used symbols to represent objects (e.g., a block for a telephone), taken the perspective of others, used increasingly efficient mental strategies to remember information and solve problems, and predicted and developed story plays for themselves and their peers to "act out." All of these kinds of activities enhance children's capabilities to understand the use of symbols in reading. (J. V. Hoorn, P. M. Nourot, and B. Scales, ***Play at the Center of the Curriculum***. New York: Macmillan, pp. 20-25, 133-147, 193-216, and 220-225)

6. They have experienced a print-rich environment in which they were led to notice print at the grocery store or laundromat, on business logos, and so forth. (Green Brock, ***"The Influences of Social Context on Kindergarten Journal Writing,"*** JOURNAL OF RESEARCH IN

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Positive Transitions

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CHILDHOOD EDUCATION, Vol. 7, No. 1 [1992], pp. 5-19)

7. Through books, pictures, and stories they have been exposed to the characteristics of print, including directionality, purpose, mechanics, and book handling. (M. Clay, ***The Early Detection of Reading Difficulties*** [third edition]. Portsmouth, New Hampshire: Heinemann, 1985)

8. Their early experiences with literacy emanate from real-life contexts that are meaningful and interesting to them: for example, following a recipe to make cookies, selecting a birthday card for grandmother, reading a story with father. (***Laying the Foundation for School Success—Recommendations for Improving Early Learning Programs***. Baltimore: Maryland State Department of Education [Commission on the Early Years], 1992, p. 43)

9. Children who are successful readers have been read to by adults who expanded on the children's text-related comments; that is, the children have related the text to their own experiences, they have used the text to enhance their thinking, and they have asked progressively more challenging questions about text content. (***Bridges to Literacy***. Edited by D. K. Dickinson. Cambridge, Massachusetts: Blackwell, 1994)

10. Their parents and kindergarten teachers share a common understanding of the attributes and attitudes children need as they enter school. (Jerry West, Elvie Germino Hausken, and Mary Collins, ***Readiness for Kindergarten: Parent and Teacher Beliefs***. Washington, DC: USDOE/Office of Educational Research and Improvement, 1993)

11. In the prephonic stage, they have experimented with writing by using a variety of materials in a meaningful context. Their early attempts at writing include drawing, copying, and invented spelling. (Judith A. Schickedanz, ***More Than the ABCs***, pp. 94-95)

12. They have watched educational television programs such as *Sesame Street* or *Mr. Rogers' Neighborhood* instead of adult programs and entertainment cartoons. (***"Study Finds Educational TV Lends Preschoolers Even Greater Advantages."*** NEW YORK TIMES, May 31, 1995. Excerpts of a study by the Center for Research on the Influences of Television on Children, University of Kansas)

13. Their parents are actively involved in their learning and show an interest in their progress. (D. R. Entwisle, ***"The Child's Social Environment and Learning to Read,"*** READING RESEARCH: ADVANCES IN THEORY AND PRACTICE (VOL. 1). New York: Academic Press, 1979; and C. E. Snow, ***"Literacy and Language: Relationships During the Preschool Years,"*** HARVARD EDUCATIONAL REVIEW, Vol. 53, No. 2, pp. 165-189)

14. They are physically healthy, rested, and well nourished; able to communicate needs, wants, and thoughts orally; and enthusiastic and curious in approaching new activities. (***A Public School Survey on Kindergarten Readiness***. Washington, DC: National Center for Education Statistics, USDOE/Office of Educational Research and Improvement, 1993; order number NCES 93-410)

The above article and the grid below are reprinted from ***Continuity for Young Children: Positive Transitions to Elementary School*** (Sacramento: California Department of Education, 1997). Copies of this publication are available for $7.50 each, plus shipping and handling charges, from the Bureau of Publications, Sales Unit, California Department of Education, P. O. Box 271, Sacramento, California 95812-0271, (916) 445-1260.

Transitions Affect Everyone

A child's transition from preschool or home to elementary school marks an important step that involves not only the child but also the child's parents, preschool teacher, and kindergarten teacher. Each plays a different role in the transition and, therefore, has different questions about the experience.

The new **kindergartner** wants to know: • Will my teacher like me? • Who will be my friend? • Will everyone be like me? • Where will I hang my jacket? • How will I know where the bathroom is?	A **parent** of a new kindergartner asks: • Is my child ready for school? • Will the teacher like my child? • Will my child be safe and nurtured? • Am I a good parent? • Will there be other children in class like my child? • Will my child be successful in school? • What will my child be expected to learn?
The questions asked by the **preschool teacher** might be: • Does our program meet children's needs and prepare them for kindergarten? • How can I offer comments and advice about my students to their kindergarten teachers? • Will kindergarten continue my developmentally appropriate practices? • Will parents I worked with so closely feel part of the new school? • How can I know what the kindergarten teacher expects?	Finally, the **kindergarten teacher** wonders: • Are the children ready to learn? • Will the parents and children understand and value what I am trying to do? • Am I ready for the children I will have this year? • What preschool and home experiences have the children had that will help them learn? • Will my students be ready for first grade next year? • Am I clear about what my students should be learning?

Does Class Size Make A Difference?

For the past 15 years, class-size initiatives have frequently been debated and implemented at the state level via legislation. While states continue to be interested in reducing class size in the primary grades, the initial state-wide costs associated with such efforts are high. Some districts consider class size to be such a critical component for improving student outcomes that they use local funds to begin such a program. Such a local initiative in Burke County Schools in Morganton, North Carolina, shows how districts can impact class size, and how reduced class size can affect other programmatic components in the primary grades.

student achievement

In the 1991-92 school year, the reduced class-size initiative began in first grade, with four elementary schools selected to have class sizes of 15. The remaining 10 elementary schools in the district had class sizes of approximately 25, and were available as "control" schools. Students in the "experimental" condition were matched as closely as possible to students from the control schools.

First year evaluation results (1991-92) of the reduced class-size initiative [of first-grade classes in the four elementary schools] were positive. Reduced class-size students significantly outperformed the control students [class size of 25] on both the state math test and the D.C. Heath reading test.

The project was expanded in the second year to include the first grades in all 14 elementary schools and the second grades in the four original pilot schools. The second project-year evaluation (1992-93) again showed positive results: at the end of second grade, after two years of smaller classes, reduced class-size students significantly outperformed the control students on the D.C. Heath reading test and the state math test. Reduced class size at the second grade, thus, produced achievement gains in reading and math over and above gains produced in the first year, when compared to control groups.

The project was expanded in 1993-94 to include all first grades, second grades in seven schools, and third grades in the four pilot schools. At the end of the third-grade school year, **after three years in smaller classes,** reduced class-size students were compared to the control students selected at the beginning of first grade. **Reduced class-size students significantly outperformed regular class-size students by approximately a year in reading and math** as measured by the North Carolina End-of Grade (EOG) test developmental scale scores.

In 1994-95, the initiative was expanded to include all second grade classes. For the 1995-96 school year, the project was expanded to include the third grades at two additional elementary schools. Student enrollment for the reduced class-size initiative for the 1995-96 school year was 2,860 with 1,193 first graders, 1,125 second graders, and 542 third graders.

personnel

Since the 1980s, the state of North Carolina has funded teacher assistants in all primary classrooms (K-3). With the reduced class-size initiative, Burke County officials made the decision not to use assistants in the smaller-sized classrooms. Since officials were prohibited from using assistant position money for teaching positions, **displaced assistants were trained to work in a one-to-one tutoring program or were moved to work in the upper grades of their assigned schools**. Some assistants who quit or retired were not replaced. The elimination of teacher assistants in K-3 has been the most controversial aspect of the initiative, because support for the assistants is strong in the community, and their reassignment/removal has been questioned. (In 1995, the North Carolina Legislature passed a law that gave Burke County and Mecklenburg County unrestricted authority to convert 'assistant' dollars to 'teacher' dollars.)

parent/teacher communication

Teachers reported that they had better and more frequent communication with parents than in previous years with larger classes. **Parents noted that** in reduced class-size schools, **they could talk with teachers almost daily**.

instruction

With fewer students in relatively large rooms, **a more varied and active instructional program was utilized**, such as learning and activity centers, project-based instruction, and experiments. **Such instructional techniques complemented the provision of a developmentally appropriate primary program.** Teachers considered it beneficial to have large and small-group activities for children in a noncompetitive atmosphere. Worksheets were discouraged as a method of instruction; active exploration was regarded as crucial. The types of activities incorporated into classrooms on a daily basis included reading stories to children as well as using centers for small group work and manipulatives to teach mathematics. Other instructional activities included motor exercises, music, dramatic play, and educational games.

assessment

With the smaller class sizes, district personnel realized that assessing student progress could be made more personal and ongoing. School officials formed a study group of teachers to work with a consultant to design a primary student writing and reading portfolio. **Administrators and teachers believed that the portfolios**, which consisted of a reading log and monthly student writing samples, **were a more individualized and authentic assessment of student work on the primary level than standardized tests** and a more effective communication tool in discussing student progress.

professional development

Influenced by a revised Standard Course of Study in North Carolina, **the primary-level curriculum programs in mathematics, science, and reading changed at the same time** the reduced class-size initiative in Burke County was started. The state math curriculum went to an exploratory approach. The science curriculum was designed around thematic units which included a "hands-on" component. Reading books were literature-based. During the first three years of the program, staff development was intensive, and consultants conducted a series of workshops in the different curriculum areas. A staff development program continues with new primary teachers to the system receiving inservice trainings in reading and math.

long-range planning

Based on financial resources and space, the ultimate plan is to have a class size of 15 students in every first, second, and third grade classroom in Burke County.

The above article contains information adapted and condensed from Paula Egelson, Patrick Harman, and C.M. Achilles' ***Does Class Size Make a Difference? Recent Findings from State and District Initiatives*** (University of North Carolina at Greensboro: SouthEastern Regional Vision for Education [SERVE], 1996). Copies of the entire document are available at a cost of $4.00 each, plus $2.50 for shipping and handling, from SERVE, 345 South Magnolia Drive, Suite D-23, Tallahassee, Florida 32301, (800) 352-6001.

Worksheets in Kindergarten

The kindergarten program at Canon Elementary School in Colorado Springs is accredited by the **National Association for the Education of Young Children**. The introduction to its Kindergarten Handbook, developed for parents, states that the school's primary task is to encourage children to develop into life-long learners. *"To accomplish this, we believe that **the school and the home must work together with mutual respect and consideration.**"*

Among the information this resource book provides for families is a discussion about the inappropriateness of worksheets in the kindergarten program. By accessing current knowledge and research about best classroom practices, the staff compiled the following list of reasons to not use worksheets:

Appropriate practices for young children include activities that are as "hands-on" in nature as possible. At Canon, your child will not be doing a large quantity of worksheets.

Here are the main objections to using worksheets with young children:

1. Children at this age do not understand abstract concepts well. Letters, numbers and shapes on a piece of paper are abstract symbols representing something else that is real.
2. Children learn basic concepts by using their senses, by manipulating objects. They will not learn anything new with worksheets. At most, worksheets will provide "drill" for concepts already learned.
3. Young children don't have the fine-motor control to color within the lines, or do many of the other tasks often asked on typical worksheets.
4. "Seat work"—sitting at a table doing worksheets—is hard for young children. They have a short attention span and find it difficult to sit still for more than a few minutes at a time.
5. Worksheets are not fun...not for long anyway. As soon as the fascination of "playing school" wears off, they become drudgery (Think back to your own days in elementary school. Very few adults remember loving to do workbook pages). We want to make children eager, enthusiastic learners, not people who avoid learning situations.
6. Worksheets do not develop creativity. In some cases they may actively inhibit the creative process in children. When children are given patterns to copy or color in, they become less likely to come up with their own ways of drawing things.

> Every time children are asked to fill in a worksheet, they are being robbed of opportunities to think and learn by doing.
> - Carol Seefeldt

7. Teachers sometimes use worksheets merely to "occupy" children—to use up time. There are so many better things children can be doing with their time.

In November 1984's issue of **YOUNG CHILDREN** (NAEYC), Carol Seefeldt says, "Asking children to complete worksheets may be a form of stealing. Every time children are asked to fill in a worksheet, they are being robbed of opportunities to think and learn by doing, to experience individualization of instruction, and to learn to cooperate."

Montaine Bronner is the kindergarten teacher at Canon, and **Aljean Tucker** is the building principal. They may be reached at Canon Elementary School, 1201 West Cheyenne Road, Colorado Springs, Colorado 80906, (719) 475-6140.

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Language-Rich Home and School Environments Are Key to Reading Success

Leon Lynn

Mealtime is often a young child's best opportunity to engage in "interesting conversations with adults," says Catherine Snow, a professor at Harvard's Graduate School of Education and a principal investigator with the Home-School Study of Language and Literacy. Those conversations, Snow says, give children the chance to develop and practice oral-language skills—such as describing events beyond the here and now, and learning new vocabulary—activities that the Home-School Study shows are strongly related to children's reading success in elementary school.

> Children learn some of their most important lessons at the dinner table, according to a groundbreaking study.

Snow and David Dickinson, a senior research scientist with the Education Development Center in Newton, MA, and the study's other principal investigator, believe the Home-School Study can provide meaningful guidance to teachers in preschools and elementary schools as they shape their classroom practices and consider how best to interact with children's families. Researchers have long known that early reading success is a strong predictor of academic success in later grades, because after grade 3, demands on the student change from "learning to read" to "reading to learn," as reading becomes a fundamental means for acquiring new knowledge about all subjects.

A New Approach

Traditionally, preschools focus on socializing children to function as part of a group, and on providing children with opportunities for free exploration of various learning materials. Some preschools also prepare young children for later schooling by stressing basic print-knowledge skills, such as identifying numbers and letters and learning the names of colors and shapes. In addition, preschools "have done a good job of getting the message out to parents that they should be reading to their kids," Dickinson says.

These activities are undeniably important in getting children ready to learn how to read. But despite the efforts of Head Start and television programs like "Sesame Street," economically disadvantaged children still lag behind their more advantaged classmates when learning to read. Snow, Dickinson, and their colleagues set out to investigate the connection between early reading success and oral-language skills, and to examine what factors in the home and school environments support the acquisition of those skills.

In 1987, researchers with the Home-School Study began gathering data on 83 three-year-old children from low-income families in the Boston area. All of the children were English speakers enrolled in Head Start or other subsidized preschool programs. The researchers have analyzed interactions between mothers and their children during book reading, play sessions with toys, storytelling, family meals, and, as the children have grown older, homework-like activities. They've also interviewed the children's parents and teachers, and observed the children's interactions with teachers and other children at school. Each year, the children also undergo a battery of literacy and language tests and activities.

The Home-School Study is clearly different from most research to date on children's literacy. While most research has focused on "decoding" skills, such as how well a child can sound out words and recognize different word forms, the Home-School Study looks at real-life conversations between children and

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Language Rich Environments

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adults. In addition to researching early oral-language development, the study is breaking new ground in research on vocabulary acquisition. Patton Tabors, the study's research coordinator, says that researchers typically study vocabulary acquisition in more controlled settings by observing under what conditions children learn new words. Instead, she says, "we're looking at how that process happens in the child's home and in the child's classroom, with real words, and how adults support that."

Study Findings

Now, in the 10th year of the Home-School Study, research assistants have collected "mountains of data," Tabor says, which will no doubt keep researchers busy for years to come. Some significant findings have emerged from analyses completed thus far.

The study has shown that the level of vocabulary present in adult talk to children who are three and four years old, in the home setting and in preschools, is a strong predictor of the level of vocabulary that child will have attained by second grade. In other words, children who are exposed to more words in their conversations with adults, and more unusual words, tend to develop larger vocabularies.

"Because we collected language samples in different situations, we found that each of those situations elicited a different group of vocabulary items," Tabor says. For many children, the richest opportunities for exposure to new words came at mealtimes. Those conversations "expose kids to a lot of rare words in various contexts that help kids figure out what they mean," she says. A mother might say she needed a "colander" to drain the water from a pot of spaghetti, for example, thus providing a meaningful context for an unfamiliar word.

The Home-School Study also documented a strong connection between early reading success among children and the amount of "decontextualized" talk they engage in with adults, in both homes and preschools. Simply put, this means conversation that goes beyond the here and now, and which relies on language to convey images and information about other times and places. A girl describing a recent trip to the zoo over dinner, for example, would rely on her decontextualized oral language skills to describe what she had seen.

Decontextualized talk also can occur when an adult reads a book with a child; the two stop to discuss what the book means, instead of merely reciting the text word-for-word. The amount of decontextualized conversation that occurs during book reading, study researchers found, is strongly associated with that child's pre-reading skills a year later. "We see Head Start and similar programs stressing the importance of reading with children, and parents responding to that," Tabor says. "But what these programs are not conveying is the message that reading a book to a child shouldn't just be a rote exercise. It's not just reading the words, but having interesting conversations about the book that helps children build stronger oral-language skills."

Implications for Classrooms

Why does the home environment play such an important role in the development of young children's oral-language skills? The simple explanation is because the home language environment is relatively constant and provides important opportunities for language interactions between children and adults. While preschools and elementary schools contribute to children's language development, opportunities for home-like interactions are rare, due to the size of classes and the length of time spent in class. In reviewing data from the Home-School Study, for example, Dickinson found that only 20 percent or less of the time children talked with adults in preschool was spent in conversations that went beyond the here and now. The rest of the time teachers were giving directions or asking children for specific information, such as the names of colors or letters.

Elementary school classrooms can be similarly impoverished. "Classroom environments are not always very language rich," says Snow. Frequently in classrooms, "vocabulary teaching is seen as a separate activity, and as less important than teaching reading or math," Snow says. "Teachers intend to teach vocabulary, but in elementary school that typically means providing students with definitions for 10 words a week, and maybe if the teacher is really good, she'll use those words across different lessons." Children can handle much more, according to Snow, who says that elementary-age children frequently learn 10 words a day on their own, mostly from reading.

Dickinson notes that data from preschools give an indication of the limited extent to which preschool children are exposed to varied vocabulary. Analyses of 65 minutes of talk in more than 60 classrooms revealed that, on average, teachers used only 43 words that researchers classified as relatively sophisticated, and therefore the types of words likely to stretch children's vocabularies. Examples of such words include fluffy, gigantic, intrigued, and bagel.

> Reading a book to a child shouldn't just be a rote exercise. It's not just reading the words, but having interesting conversations about the book that helps children build stronger oral-language skills.
>
> - Patton Tabors

Dickinson and Snow recognize, however, that it can be hard for teachers, even those aware of the importance of rare vocabulary and oral-language skills, to make changes in the way the classroom works in order to support a richer vocabulary environment. Oral conversation, including conversation in classrooms, is usually limited to about 15,000 commonly recognized words, Snow says. "It's hard to do more with vocabulary while you're doing a million other things. It's rare that instead of asking a child to water the plants, a teacher will say, 'I'm becoming anxious about dehydration.' But they need to engage in that kind of talk all the time, not just once in a while."

Teachers can help children acquire new vocabulary and build their oral-language skills by exposing them to a wide variety of experiences, both in and out of the classroom. Tabors says she was looking at Home-School Study data one day, and noticed that different settings presented different opportunities for acquiring new vocabulary. "All of a sudden it hit me," she says. "I realized why it's important for teachers to take children on field trips—every new experience that children have has new vocabulary attached to it."

Building Vocabulary

Teachers can help preschoolers acquire oral-language skills by examining how they read books with the children. To get the full value from reading books with preschoolers, Dickinson and his colleague Miriam Smith found, teachers need to be

thoughtful about how they read and discuss books. "Our results indicate that when teachers are reading, it's best to have limited discussion that focuses on parts of the story that might be confusing," he says. "Once the book is over, more extended discussions can be helpful. Just reading books straight through, or departing from the text for extensive dialogue with children, is not desirable."

Dickinson also found evidence that talk between teachers and preschool children, especially during mealtimes, was a predictor of the children's vocabulary skills in 2nd grade, even when the contributions of the home environment were taken into account. "That was a real surprise to me, to get such a long-term prediction from such a limited amount of talk in the course of children's lives," he says. It may be that having such conversation during meals "indicates that these are teachers who are oriented toward language, who are tuned in to the importance of language, and are probably emphasizing it at other times as well." For example, Dickinson says, "those teachers might be more likely to sit down with children during free play, making themselves available for interesting or extensive conversations with kids."

Teachers can, in other words, emulate the types of home-based language experiences that seem to be most helpful to students. Whether these extended conversations occur over lunch in school or over dinner at home, the Home-School Study suggests that students stand to gain from them.

The Home-School Study of Language and Literacy Development

The Home-School Study of Language and Literacy Development is a longitudinal study investigating the linkages between the early oral-language development of young children, at home and in preschool, and their literacy success when they reach elementary and middle school.

The project began in 1987 by identifying a group of 83 three-year-old children from lower-income families in the Boston area. All were English speakers from families eligible for Head Start services or other types of subsidized day care. The families received small stipends for participating in the study.

At the time researchers conducted their first home visits with the families, just under half were receiving welfare assistance. More than a third were single-parent families, and a third were African American or Hispanic. Among the mothers, 28.4 percent hadn't completed high school, while 43.2 percent had, and 28.4 percent had completed some education beyond high school.

When the children were three, four, and five years old, researchers visited their homes to observe and tape-record interactions between mothers and children during a variety of activities. These included reading books—each family was asked to read Eric Carle's *The Very Hungry Caterpillar*, as well as other books—playing with toys supplied by the researchers, and storytelling. The families also were asked to tape-record a meal shared by family members. Later, when the children were seven and nine years old, they were observed interacting with their mothers in homework-like activities.

During each of the home visits, researchers also conducted extensive interviews with the mothers, questioning them about their own lives and academic histories, their children's development and adjustment to school, and their hopes and dreams for their children, among other topics.

The study also included yearly visits to the children's preschools and elementary school classrooms. In preschool and kindergarten, the children wore backpacks equipped with tape recorders during snack time and free play, in order to capture their verbal interactions with teachers and peers. In 1st through 4th grade, classroom observations emphasized reading instruction and writing programs. Each year, the children's teachers were interviewed about how the children were doing in class and about their own educational philosophies. Further, starting in kindergarten, the children were given a yearly battery of language and literacy tests.

The principal investigators of the Home-School Study are Catherine Snow, a professor at the Harvard Graduate School of Education, and David Dickinson, senior research scientist with the Education Development Center, in Newton, MA. Patton Tabors, a research associate at Harvard, is the study's research coordinator.

The study has been funded by the Ford Foundation and the Spencer Foundation, and the Head Start Bureau of the U.S. Department of Health and Human Services. Continued funding from the W. T. Grant Foundation will make it possible to follow the same group of children through 7th grade.

Leon Lynn

For Further Information

D. E. Beals and P. O. Tabors. ***Sources of Support for Learning Words in Conversation: Evidence from Mealtimes.*** Paper presented at the annual meeting of the American Educational Research Association, April 1996.

D. K. Dickinson. "***Features of Early Childhood Classroom Environments That Support Development of Language and Literacy.***" In J. Duchan, L. Hewitt, and R. Sonnmeier, **Pragmatics: From Theory to Practice**. Englewood Cliffs, NJ: Prentice Hall, 1994.

D. K. Dickinson and M. W. Smith. "***Long-Term Effects of Preschool Teachers: Book Readings on Low-Income Children's Vocabulary and Story Comprehension.***" **Reading Research Quarterly**, 29, no. 2 (April/May/June 1994): 105-122.

C. E. Snow. "***The Theoretical Basis for Relationships Between Language and Literacy in Development.***" **Journal of Research in Childhood Education**, 6, no. 1 (1991): 5-10.

C. E. Snow and P. O. Tabors. "***Language Skills That Relate to Literacy Development.***" In B. Spodek and O. N. Saracho, eds., **Language and Literacy in Early Childhood Education** (Yearbook in Early Childhood Education, vol. 4), New York: Teachers College Press, 1993.

C. E. Snow, P. O. Tabors, P. A. Nicholson, and B. F. Kurland. "***SHELL: Oral Language and Early Literacy Skills in Kindergarten and First-Grade Children.***" **Journal of Research in Childhood Education**, 10, no. 1 (1995): 37-48.

For information on the Home-School Study, contact Patton Tabors at snowtdpt@hugse1.harvard.edu.

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Professional Development Opportunities at NAEYC Annual Conference

At the **National Association for the Education of Young Children (NAEYC) 1997 Annual Conference** in Anaheim, one-hour sessions are designated in various categories or tracks. Sessions are listed in the conference program under a track heading which indicates their dominant theme. Among the 38 tracks from which participants can choose are ones dealing with Assessment/Portfolios/Observation, Child Development, Children at Risk, Community Planning, Curriculum, Early Literacy, Exceptional Children, Inclusion, Kindergarten/Primary, Multiple Intelligences, and Public Schools.

In the Kindergarten/Primary track there are some 35 sessions, which focus on such topics as balanced literacy, class meetings, developmentally appropriate practices, discipline-based art education, group games, sand play, technology, transitions, sign language, and unit blocks. In addition to these one-hour sessions, there are several networking, preconference, seminar, and evening presentations, many of which have been planned by members of **NAEYC's Primary Grades Interest Group** and by members of the **National All Day Kindergarten Network**. These special sessions include the following:

- *Maximizing Student Learning: Using Centers, Thematic Planning, and Project Work* - an interactive session, with classroom practitioners from **NAEYC's Primary Grades Interest Group**, which will focus on primary-grade students' active involvement in planning assignments and learning by doing and, in so focusing, provide a three-hour primer on what constitutes a developmentally appropriate K-3 classroom; on Wednesday, 12 November, 8:30 AM to 11:30 AM

- *A Unified Accreditation System for Preprimary and Primary Programs: Hopeless Dream or Logical Possibility?* - an update on the status of an accreditation process for the primary grades, with members of **NAEYC's Primary Grades Interest Group**, and an initial work session on sections of a K-3 self-study document; on Thursday, 13 November, 8:30 AM to 10:30 AM

- *Organizing and Managing Developmentally Appropriate Programs For Grades K Through 3* - an evening presentation planned by **NAEYC's Primary Grades Interest Group,** which will focus on organization and management strategies to assist in the implementation of appropriate practices in K-3 classrooms; on Thursday, 13 November, 7:00 PM to 9:00 PM

- *Developing a District-Wide Assessment for Grades K Through 3: Teacher Insights and Developmentally Appropriate Outcomes* - an overview of the development of appropriate assessment in the primary grades, at the school district-level; on Friday, 14 November, 8:30 AM to 10:30 AM

- *Implementing the All-day Kindergarten: Key Issues* - a discussion planned by the **National All Day Kindergarten Network**, and small-group work aimed at facilitating the implementation of all-day kindergarten programs; on Friday, 14 November, 8:30 AM to 10:30 AM

- *Literacy Learning in Inner-City Primary Classrooms: A Literacy Enhancement Project* - a session which will describe methods used to develop and enhance literacy among primary students in an inner city environment; on Saturday, 15 November, 8:30 AM to 10:30 AM.

The **1997 NAEYC Annual Conference** is scheduled in Anaheim from 12 to 15 November. Preregistration is $100.00 for **NAEYC** members and $125.00 for non-members. Preliminary programs and registration forms are available from **NAEYC**, Conference Registration, 1509 16th Street, N.W., Washington, DC 20036-1426, 800-424-2460 (voice), 202-797-1651 (fax).

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Physics for First-Graders

Steven G. Hagerott

My car bounced into the circle drive of the lower-middle-class elementary school. It was located on the north side of Lawrence, Kansas, directly across from a dog food factory. As my car shuddered to a stop, I fought off the scent of steaming dog food and industrial smoke. I peered into the standard playground to see the conventional amusements: slides, monkey bars, swings, and a merry-go-round. These amusements are usually assumed to provide mere childish recreations, an escape from learning. However, like many children's toys, they hide a wealth of potential lessons about everyday physics.

> Physics can be taught appropriately to anyone.

A group of 20 engineering students from the University of Kansas had volunteered to teach physics and science to children in grade school throughout the city of Lawrence. I was one of those dreamers. For one semester, we were put in charge of three hours of instructional time per week. A teaching module was available as a guide to those engineering students teaching fourth-, fifth-, and sixth-graders. For those of us teaching a combined class of first-, second-, and third-graders, as I was, there was no direction.

I searched my memory for the activities that had sparked my interest in science at a young age. Did it happen in school? All I could remember about the first three grades was a disconnected series of chocolate milk breaks, recesses, and addition problems. My best recollection suggests that my interest developed through hands-on experimentation outside of school. Experimentation fueled by the insatiable curiosity of a child.

My earliest memory of such experimentation goes back to age 6. I became fascinated by a wood-paneled radio that we had in our garage, and I was determined to duplicate it. Digging through a junk drawer, I found what I thought were the two most necessary components: an electrical cord with an outlet plug and a speaker.

"What more could there be?" I thought, visualizing the talking box with a cord plugged into the wall of our garage.

I knew I must be doing something right because the construction proved to be so simple. The cord had two bare wires on one end and an outlet plug on the other. Coincidentally, the speaker had two metal tabs waiting to receive the bare metal wires to form the rest of my radio. I wrapped a wire around each metal tab of the speaker to complete the radio. I sauntered up to the nearest outlet and inserted the plug, expecting to hear blaring music.

Blaring music is not exactly what I heard. In a violent explosion of sound, light, and smoke, the outlet refused to cooperate. The victimized speaker smoked hotly in my hands, while the outlet was charred black from the scorching it received. My response was to scurry to my room like a chased cockroach to avoid the impending wrath of my parents, now that the echo of the explosion and the scent of smoke wafted through the house.

Hiding out gave me a brief interval to wonder about my error, and all I can remember thinking was, "Why? Why didn't it work? I had the cord, the speaker, what more do you need? I guess there must be more inside that box than just a speaker."

Curiosity, developed through active participation, is what kids need to get them interested in science. Because I didn't plan to subject these first-graders to a radio experience comparable to mine, I set my aim on the one thing every child knows intimately: the playground.

As I sat in my car in front of the school, I frantically searched for a lesson plan that would make use of the playground. My eyes

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Physics for First-Graders

Continued from page 1

scanned the contents of my car: a backpack and a towel. I looked out into the playground and eyeballed the monkey bars and slide. Perfect. A first-class series of physics demonstrations was being born.

I walked into a roomful of 24 miniature human beings intently involved with their coloring books. Bodies and tongues squirmed with every stroke of the crayons.

"Class, this is Steve. He is an engineering student at the University of Kansas, who will be teaching you about engineering and science for a couple of months," the teacher, Mrs. Tamerius, explained in that tone with which adults speak to children. I felt instantly awkward and childish. I had to teach children about things that engineers can barely communicate to one another without equations. How could I talk to these students without sounding like a dork?

"Hey, guys, what's up?" I said, commanding the attention of all the little bodies.

"Hi, Steve," they all droned in a grade-school singsong.

"They tell me that I am supposed to teach you about engineering and science this semester. Well, I think there is only one thing that you guys really need to learn, and that is one word: Why?" I paused as all the bodies squirmed in confusion. "Now, let's go outside!"

Looks flashed from me to the teacher. Is this possible? It's not even recess. I watched the little minds flirt with the concept as the teacher looked at me and laughed.

"Everybody line up," Mrs. Tamerius commanded in her best drill sergeant tone. She was apparently as excited as the students were over what I was planning. The children were amazed at the opportunity to go outside during school hours. Little did they know that they were still going to be in school.

So my 24 midget followers marched behind me in single file, directly to the monkey bars. The monkey bars looked like a ladder lying horizontally—but held six feet above the ground by metal posts on either end.

"Okay, everybody," I screamed to start the discussion and try to get control of the situation. "I want everyone to line up in front of the monkey bars and prepare to hang from the bars."

> Children absorb concepts of physics rapidly because they are naturally curious and given to experimenting.

The children fought to get into line. As they waited, they jumped up and down to burn off a little of their seemingly limitless energy.

"Okay. Now I want everyone to go halfway out and hang there. I want you to remember how your hands feel hanging from the bars."

Mrs. Tamerius and I laughed as the army of children assaulted the monkey bars and then, one by one, fell like paratroopers to the ground.

"Now we're going to do it again. But this time each of you will take turns wearing this backpack full of books. I want you to think about how this feels compared to the first time," I instructed, hoping something might be gained by this experiment.

I fitted the students with the backpack, one after the other. I let each one hang from the monkey bars and then moved on to the next. Assembly-line education at its best. Some of the boys tried not to let go in an attempt to prove their masculinity.

"Is it harder to hold on?" I asked them.

"No, it's easy," some of the young boys lied, as they grunted with effort.

"I can't hold on as long," the other students replied.

Then came the summary. "Which way did you guys fall from the monkey bars?" I asked.

"Down!" came the synchronous scream from the group.

"And was it harder to hold on with the backpack or easier?"

"Harder!" came another chant from the bouncing crowd.

"Okay, you guys, here's the important word. Why?" I waited as the seconds seemed like hours. I watched the students grapple with the question. They began to squirm as the thoughts began to flow. It was as if their minds could not fully function without a corresponding body movement. They offered bits of commonsense logic, such as "The books make you heavier." But they never quite hit the mark.

"The reason why you fell down and why it was harder for you to hold on with the backpack was"—I paused momentarily to add more drama—"gravity!" I sounded like Beakman. "Gravity pulls things down, and gravity is what makes things feel heavy. Remember this word because you're going to hear it every time I am here—gravity," I concluded proudly.

The experiments in the hands-on discovery of physics continued throughout the semester. I once had the kids take turns going down a slide with and without a towel. The slide and towel were used to show how gravity and friction work together. The swing was used to demonstrate how gravity, friction, and inertia work together. The merry-go-round was used to demonstrate gravity, friction, inertia, and force.

Each of these lessons began with the children giving me a cheering welcome. Most likely it was because they began to expect an entertaining hour.

A series of these experiments stressing applications continued, and the same terms were applied and repeated: gravity, friction, inertia, and force. The experiments involved toy rockets, hovercraft, and homemade hot-air balloons, to name a few. At times, Mrs. Tamerius jumped in to translate when I got too technical and forgot my audience. In each lesson, every child ran through a battery of experiments, and the fundamental analysis of *why* concluded every lecture.

When bodily exercises weren't appropriate, the children would each construct something. We would have a classwide trial run of whatever the apparatus of the day turned out to be, and then we analyzed how it worked in terms of gravity, friction, inertia, and force. From first grade to third grade the answers would be barked out: "Gravity! Friction! Inertia! Force!"

The construction projects seemed to be special favorites of the students. Beginning with the analysis of *why* and using the four fundamental terms, the projects expanded to include such ideas as lift and how

airplanes fly. Considering most children's immense fondness for paper airplanes, I set out to capitalize on this enthusiasm for a lesson.

"How many of you know how to make a paper airplane?" I asked, expecting a unanimous positive reply. To my surprise, only a few hands rose. I realized that these children were indeed young. Their minds, fresh and uncluttered, were innocent of much that I took for granted. In my lesson, they were going to experience for the first time something as simple as a paper airplane. I gently coached each student through the process of folding and forming a paper airplane. I inspected and repaired each student's airplane at the front of the class. The children would walk up to me like proud parents, presenting their newborn airplanes to me. A red stamp of approval indicated that the plane was certified for flight.

"Can we color our airplanes?" the kids asked with artistic eagerness.

"Yes, you may color your airplanes," I droned in reply because they wanted to color everything they made. It must have provided the children with a sense of their uniqueness. Their eyes would glow with pride, and their tongues dangled from their mouths during the coloring process. I relived my own childhood during these times. The memory of my failed radio flickered in and out of my mind, as my childhood curiosity flowed through me again.

"Okay, everybody. Now we are going to line up and take turns throwing our airplanes," I announced. The children's eyes flashed at the idea of being ordered to throw airplanes in school. Smiles spread across the room like a wave. Chaos ensued as usual, and Mrs. Tamerius stepped in to help me regain control of the situation. Classroom management is definitely an art form.

"Now we're going to draw the forces that push or pull on the airplane to keep it flying. What things make your airplanes fly when you throw them?" I asked the students.

The scientific education we typically offer to our young people is dreadfully out of sync with the power of children's natural curiosity.

The words rang out like a triumphant battle cry from the crowd, "Lift! Inertia! Gravity! Friction!" From first to third grade, the children cheered as they set about applying their knowledge. I helped out by drawing a large paper airplane on the board. Students would walk up to the airplane picture and write one of the terms, along with an arrow indicating the direction of the force. I then went from student to student and watched them draw arrows on each of their own prized airplanes. The four arrows stood out from the colorful creations. I questioned some students when they had a misplaced arrow.

"Does air friction speed up the airplane or slow it down?" I asked a third-grade student.

"It slows it down. Oops! That means it points backward!" he quickly responded.

"Does gravity pull the airplane up or pull it down?" I asked a first-grader.

"Oh! I've gotta draw it pointing down like the backpack pulled me down!" the first-grader discovered excitedly.

I glowed with satisfaction as the children went through the mental processes of understanding their airplanes. The concept of using arrows to show forces on something seemed natural to them, almost instinctive. I was amazed that every child in the first, second, and third grade rapidly drew the forces acting on his or her airplane. Although they didn't know it, they were actually drawing "freebody diagrams." Usually, freebody diagrams showing a body with the forces acting on it are not mentioned until the sophomore year of college. But for these youngsters, a freebody diagram was just a picture that showed how their brightly colored airplanes worked.

As the semester developed, the children and I became more attached. My lessons usually began with me sitting on a chair and the kids circling around me on the floor. I felt like a grandfather as the children fought to get close to me, to lean against me, to put a hand on my shoulder as I raised new questions or suggested new applications to them. That was how I ended my final class with "my kids." They circled around me with bright eyes and giggles. They looked at me in silence as I quietly spoke to them in the half-childish tone that I had become so comfortable with.

"What is the one question you guys are going to remember to ask after this semester?" I asked, hoping for the answer I wanted.

We need to make science education hands-on. It'll be more fun for all of us, and the kids will take care of the rest.

"Why!" the children shouted. My heart warmed; I felt a piece of my own childhood had been shared. My own love of childhood experiments had been reborn in each of the 24 children sitting around me.

"It is not important that each of you become an engineer or a scientist," I explained. "But it is important that you can *think* like an engineer or a scientist. That just means constantly asking the question, Why?" The children avoided making eye contact.

"Well," I continued. "This is the last time I'll be here. I was only supposed to teach for the fall semester."

"You're not coming back?" they quickly asked, shocked.

"I'll visit in the spring. I'll bring my hang glider, and I'll show you how it works," I responded, fighting down the lump in my throat and struggling to control my emotions. Hugs came from all around, as children grabbed my legs and told me how much they would miss me. I turned toward the door and waved goodbye to the crowd of children standing in silence.

Physics and other scientific knowledge can be taught to third-, second-, and even first-graders. It can be taught appropriately to anyone. Children absorb these subjects rapidly because they are naturally curious and given to experimenting. The scientific education we typically offer to our young people is dreadfully out of sync with the power of children's natural curiosity. Physics doesn't have to be painful. It doesn't have to bring on bouts of boredom. We need to make science education hands-on. It'll be more fun for all of us, and the kids will take care of the rest.

Steven G. Hagerott is a flight controls engineer at the Lockheed Martin Skunk Works in Palmdale, California. He may be reached at *Hagerott@ptw.com*. This article originally appeared in the May 1997 issue (Volume 78, Number 9, pp. 717-720) of the **PHI DELTA KAPPAN** and is reproduced with permission.

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Helping Children Develop Oral-Language Skills
10 Activities Teachers and Parents Can Do

Leon Lynn

1. Keep the focus on language skills throughout the day, even when working on "other" curriculum areas. For example, create a "science corner" in the classroom stocked with an old typewriter, doorknobs, zippers, or other interesting contraptions. Arrange for small groups of children (no more than four at once) to spend 10 to 15 minutes there with a teacher. Encourage the children to explain how the devices work; encourage sharing of explanations in small groups.
2. Arrange meal or snack times so that small groups of children eat with an adult. Let the children choose the topics of conversation; encourage talk about personal experiences; encourage "curiosity questions," such as what the food is made of, how it's good for the body, etc.
3. Create a "Personal Experiences" center in the classroom, where young children can talk with teachers about events in their lives while the teachers listen, prompt discussion, and record the experiences.
4. Put books at the center of language enhancement. Read to children, and encourage them to read their favorite books with you. Make time to read to children individually or in small groups. Let children ask questions during reading sessions. Encourage children to reread familiar stories, and push for deeper understanding. Provide books on tape that children can play while looking at the books. Encourage children to record tapes of their favorite stories. At home, parents can read an adult-level science magazine together with their children.
5. Lend copies of books to families. Tell parents what the children are learning in school, and suggest ways to address the same concepts at home. Parents should tell teachers what they are reading with their children at home.
6. Tell children personal stories. Talk to them about things that interest you. Acknowledge uncertainty about some things, and show children how to find answers to your questions.
7. When talking with children, support their efforts to communicate complex thoughts by waiting patiently, suggesting words as needed. Let them control the subjects of conversation, when possible, and encourage their efforts to use new words and describe complex or distant topics.
8. Encourage pretending among children. Make sure children have long periods of time to let complex pretend play develop. Encourage pretending about familiar settings, such as restaurants and grocery stores. Provide props that link play to ongoing curriculum units or favorite books. Change props from time to time to keep interest high.
9. Make time for rich conversation with children. Turn off the TV and use the time to talk, or at least watch TV together and then talk about what you watch. Turn off the car radio and talk while you drive together. Set aside a regular "talk time" during which adults and children share news for five to ten minutes and no other activity is performed.
10. Take children to interesting places. Every field trip or new experience has its own vocabulary. Expose children to new places, people, and concepts in ways that permit one-on-one conversations with adults. Encourage children to describe what they see, draw inferences, and predict outcomes.

Leon Lynn is an education writer living in Milwaukee. He can be reached at *LeonLynn@compuserve.com*.

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A Developmental Approach to Assessment of Young Children

Lilian G. Katz

For more than a decade, early childhood educators have been discussing issues of curriculum and teaching methods in terms of their developmental appropriateness. The concept of developmental appropriateness can also be extended to issues related to the assessment of children during the early years.

The Purposes of Assessment

Clarifying the main purpose for which young children are assessed can help determine what kinds of assessments would be most appropriate. Assessment of individual children might serve one of the following purposes:

- to determine progress on significant developmental achievements;
- to make placement or promotion decisions;
- to diagnose learning and teaching problems;
- to help in instruction and curriculum decisions;
- to serve as a basis for reporting to parents; and
- to assist a child with assessing his or her own progress.

Decisions regarding the purposes of assessment should begin with discussions among all the stakeholders—parents, educators, and other members of the community—as appropriate. The group may want to keep in mind that (1) plans, strategies, and assessment instruments are differentially suited for each of the potential purposes of assessment; (2) an overall assessment should include the four categories of educational goals: knowledge, skills, dispositions, and feelings (Katz, 1995); and (3) assessments made during children's informal work and play are most likely to minimize the many potential errors of various assessment strategies.

Report cards with letter grades or achievement scores are not appropriate for children at or below the third grade.

The Risks of Assessing Young Children

Young children are notoriously poor test-takers: perhaps because they are sometimes confused by being asked questions that they think the tester must already know the answers to! There is reason to suggest that the younger the child being evaluated, assessed, or tested, the more errors are made (Shepard, 1994; Ratcliff, 1995). If this principle is sound, then the younger the children, the greater the risk of assigning false labels to them. Another principle may also be appropriate: the longer children live with a label (a true or false one), the more difficult it may become to discard it.

All methods of assessment make errors: the errors made by formal tests are different from those made by informal or anecdotal records and documentation notes; the errors made by specific checklists of behavioral items are different from those made by holistic impressionistic assessments. Awareness of the potential errors of each evaluation or assessment strategy can help minimize errors in interpretation. It is a good idea to strive for a balance between global or holistic evaluation and detailed specific assessments of young children.

The Assessment of Young Children

As they plan assessments of young children's learning, parents and educators may want to:

§ *Recognize the Limitations of Report Cards and Grades.* For several reasons, report cards with letter grades or achievement scores are not appropriate for children at and below the third grade. First, before third grade, the differences in developmental timetables and other factors that contribute to performance are still too unstable, malleable, and varied to achieve reliability. By third grade, however, children's abilities and aptitudes are likely to have stabilized and can be assessed with at least minimal reliability. Second, there is little evidence that grades or scores listed on the report cards of young children contribute positively to those most in need of improvement. Third, while teachers need to know how well a young child is progressing on significant skills and knowledge, and to evaluate such progress, little is known about how parents use such information.

§ *Assess Aspects of Children's Functioning That Have Real Meaning.* The items and behaviors assessed should have demonstrable relationships to significant human functioning. For example, the child's knowledge of the names of shapes or of the calendar at age 4 or 5 has little or no practical significance or meaning beyond test performance itself. In addition to assessing young children's social competence, adults should include the assessment of individual children's progress in acquiring desirable dispositions, feelings, skills, and knowledge. Documentation is a strategy for recording and presenting such assessments (see Katz & Chard, 1996).

§ *Encourage Children to Assess Their Own Work.* Preschoolers and children in the primary grades can be encouraged to assess their own work according to specific criteria such as the clarity, inclusiveness, interest level, comprehensiveness, or aesthetic qualities of the work. They can also be encouraged to consider the standards to be met on these criteria.

§ *Encourage Children to Assess Their Own Progress.* From kindergarten on, most children can be encouraged to assess the general progress of their own learning. During

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Approach to Assessment

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teacher-child or teacher-parent-child conferences, children can be encouraged to indicate what mastery and learning they want to focus on during a given period. From time to time, children can then be asked to judge their own progress, using three or four categories. For example, each child can be asked to discuss work she thinks she is making good progress on, what he thinks he needs to concentrate more on, what she wants help with, and other categories nominated by the child. Most children will be quite realistic and sensible when engaging in such self-evaluation. The teacher can help by expressing her own realistic evaluation in a serious and supportive way. In principle, unless children are consulted about their own views of their own progress, they cannot learn to assume some responsibility for it (Katz, 1995).

§ *Involve Children in Evaluating the Class Community.* Depending on their ages, children as a group can be encouraged to develop some criteria concerning what they want their classroom life to be like. These criteria are not simply lists of classroom rules. Rather they should be a thoughtful examination of what kind of community the class should be—for example, the extent to which it is a caring, cooperative group, respectful of individual differences; the extent to which it is a helpful community of scholars; and the extent to which it meets any other dimensions of classroom life the children and their teacher think are important.

Periodically, the teacher or a child can lead the group in a discussion concerning how well they are doing on these criteria as a class, and what additions or modifications of the criteria might be tried. Such discussions should be directed toward the development of positive and constructive suggestions.

Conclusion

Whenever a measurement is applied to a group of people of any age, especially a group that is diverse in background, experience, aptitude, development, culture, language, and interests, some will rank higher and some lower than others on any item assessed. All measures yield such differences, and it is thus statistically impossible for all those subjected to the same assessment to be above average! However, failure to evaluate and assess children's progress might mean that some children will be deprived of needed intervention with special services at a time when these services can do the most good. While educators cannot be accountable for all children being above average or for all children being first, they are accountable for applying all teaching strategies and efforts known to be effective and appropriate for the learning situation at hand. Assessment procedures should therefore indicate which of the strategies and resources available and judged appropriate have been employed to help each individual child.

For More Information

Fogarty, Robin. (Ed.). (1996). *Student portfolios: A collection of articles.* Palatine, IL: IRI/Skylight Training and Publishing. ED 392 542.

Gaustad, Joan. (1996). "Assessment and evaluation in the multiage classroom" [Special Issue]. *OSSC Bulletin,* 39(3-4). ED 392 149.

Genishi, Celia. (Ed.). (1992) *Ways of assessing children and curriculum: Stories of early childhood practice.* New York: Teachers College Press. ED 365 474.

Hills, Tynette W. (1993). "Assessment in context—Teachers and children at work." *Young Children,* 48(5), 20-28. EJ 465 919.

Katz, Lilian G. (1995). *Talks with teachers of young children: A collection.* Norwood, NJ: Ablex. ED 380 232.

Katz, Lilian G., & Chard, Sylvia. (1989). *Engaging children's minds: The project approach.* Norwood, NJ: Ablex.

Katz, Lilian G., & Chard, Sylvia C. (1996). *The contribution of documentation to the quality of early childhood education.* ERIC Digest. Urbana, IL: ERIC Clearinghouse on Elementary and Early Childhood Education. ED 393 608.

Martin, Sue. (1996, April). *Developmentally appropriate evaluation: Convincing students and teachers of the importance of observation as appropriate evaluation of children.* Paper presented at the Association of Childhood Education International Conference, Minneapolis, MN. ED 391 601.

Privett, Nawanna B. (1996). "Without fear of failure: The attributes of an ungraded primary school." *School Administrator,* 53(1), 6-11. EJ 517 823.

Ratcliff, Nancy. (1995). "The need for alternative techniques for assessing young children's emerging literacy skills." *Contemporary Education,* 66(3), 169-171. EJ 512 829.

Schattgen, Sharon Ford. (1993, April). *Validation of a developmentally appropriate assessment system for early childhood education.* Paper presented at the Annual Meeting of the National Council on Measurement in Education, Atlanta, GA. ED 359 248.

Shepard, Lorrie A. (1994). "The challenges of assessing young children appropriately." *Phi Delta Kappan,* 76(3), 206-212. EJ 492 843.

SouthEastern Regional Vision for Education. (1995, April). *Assessment in early childhood education: Status of the issue.* Tallahassee, FL: Author.

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80 Years of Research Confirm That Grading is Unreliable

For more than 80 years, research has pointed to the unreliability of grading efforts not only among teachers but also across subject areas. Starch and Elliott's (1912; 1913a, b) classic studies present clear evidence of this. When asked to utilize their schools' grading processes to mark an English paper, with 75 as the lowest possible passing score, 142 English teachers responded by awarding grades ranging from 64 to 98. Similarly, mathematics teachers awarded points ranging from 28 to 95 on a geometry paper. Certainly, if differences occur in the grading of a subject as precise as mathematics is presumed to be, variances in the evaluation of young children must be expected.

As Frisbie and Waltman admit, "The process of grading requires teachers to make a number of decisions that are grounded in their personal value system. What to do about grading or how to do it is often less a matter of correctness and more a matter of preference and perceived value of importance" (1992, 35). In fact, the title of their article—"Developing a Personal Grading Plan"—not only acknowledges but also encourages individuality in determining grades.

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The Grading Ritual: Unreliable and Unsuitable—But Unalterable?

Sandra L. Robinson

Why is it hard to alter this outmoded practice of assigning a single mark to represent such a complex undertaking?

When a colleague arrived one day at the office, she was obviously very upset. Her son, Jeff, had received his report card and been given three "not able to perform" marks. Concerned, she had proceeded to the school where, on entering the classroom, she happened to see a report card of one of Jeff's classmates. The girl had received three "outstanding" and no "not able to perform" marks. Irate, Jeff's mother confronted the teacher and demanded to know what criteria were used to make these judgments about the two six-year-olds.

It has been 10 years since **NAEYC** first published a book (Bredekamp 1987) on appropriate education for young children, *which does not include grading*, but the practice of grading continues. While some changes have occurred in grading, the result often has been the substitution of one symbol system for another—for example, "outstanding" for *A*. Research and articles about the inappropriate use of grades and the lack of validity in grading rituals have been ignored or, at best, overlooked in response to perceived demands to label and rank children.

While reforms have occurred in spurts across decades and in scattered parts of the country, grading has prevailed as the predominant method of reporting progress. Bender reviewed reform in grading practices but found that "except in a handful of cases...the new systems are little more than ill-disguised variations of the grading system, and virtually all the innovations suffer from the same shortcomings that afflict grades" (1975, 11). And although the authentic assessment movement has brought about change in standardized testing practices in some areas, I get the feeling that it has had little effect on reforming grading practices. Is there research about this?

How can a teacher plan lessons in which children learn through exploration; promote the practice of skills in active, involvement-oriented lessons; acknowledge that development of various proficiencies occurs unevenly (some children can ride a two-wheel bike but not yet recognize the relationship between numbers and objects); and still be expected to employ old-fashioned practices such as grading in assessing and reporting progress? The frustration some teachers feel in reconciling such divergent expectations is understandable.

Facilitating Change

Why is it so hard to alter this outmoded practice of assigning a single mark—be it a check or letter or number—to represent such a complex undertaking as evaluating and communicating academic performance? Few would disagree that young children and their parents deserve more helpful information. Perhaps, as it has been suggested, we teach and evaluate as were taught and evaluated. Many parents also rely on their own school experiences to guide their preferences in practices for their children. Perhaps we are hindered by what appears to be a national proclivity for ranking and ordering things.

If change occurs, it may be partially the result of studies to demonstrate the lack of reliability in the grading process. It also will require the efforts of committed and caring principals, teachers, and parents willing to go the extra mile to develop more effective ways of communicating a child's progress to her parents.

How Does Giving Bad Grades Help Children Try to Learn?

In addition to lacking reliability, grades may produce feelings of discouragement and result in avoidance of the study of certain subjects. Napier recorded the comments of fourth-graders to demonstrate the impact of grades on young children. A sampling from her report reveals the emotional effects of grades on children.

If I got bad grades, I'd think I was stupid...didn't know anything.

Once I remember going home [with bad grades] and screaming and jumping on my bed. I wanted to tell my mom I wanted to stay home.

When you get a bad grade, you feel ashamed and kinda sad.

When grades are good, you usually keep them good. If they're bad, then you usually keep them bad, and maybe worse. (1976, 24)

Evidence of the negative effects of grading appears beyond this initial period of schooling. Even college officials are concerned. According to an article in ***The Chronicle of Higher Education***, "A growing number of college officials think that some students come to believe they aren't naturally inclined toward mathematics or science simply because it is harder to get good grades in those subjects. And they think low grades are steering people away from science at a time when nearly everyone agrees the country needs more scientists and technologically literate people" (Shea 1994, A45).

References

Bender, S.A. 1975. *The Great Grading Myth.* ***Colorado Journal of Education*** 14 (3): 2-15.

Bredekamp, S., ed. 1987. ***Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth Through Age 8.*** Exp. ed. Washington, DC: NAEYC.

Frisbie, D.A., & K.K. Waltman. 1992. *An NCME Instructional Module on Developing a Personal Grading Plan.* ***Educational Measurement: Issues and Practices*** 11 (3): 35-42.

Napier, S.F. 1976. *Grading and Young Children.* In ***Degrading the Grading Myths: A Primer of Alternatives to Grades and Marks***, eds. S.B. Simon & J.A. Bellanca. Washington, DC: Association for Supervision and Curriculum Development.

Shea, C. 1994. *Grade Inflation's Consequences.* ***The Chronicle of Higher Education*** 40 (18): A45-46.

Starch, D., & E. Elliott. 1912. *Reliability of the Grading of High-School Work in English.* ***The School Review: A Journal of Secondary Education*** 20:442-57.

Starch, D., & E. Elliott. 1913a. *Reliability of Grading Work in History.* ***The School Review: A Journal of Secondary Education*** 21:676-81.

Starch, D., & E. Elliott. 1913b. *Reliability of Grading Work in Mathematics.* ***The School Review: A Journal of Secondary Education*** 21:254-59.

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An EVEN START Means Success in School

Even Start programs, authorized by Congress in 1989, provide education for a family unit—an adult caregiver, a parent or parents eligible to receive these services, and a child or children under age seven. To establish such programs, the U. S. Department of Education provides federal financial assistance, through competitive grants from states, for family-centered education projects. These build on existing community resources to create a full range of services. The programs also support educational reform by addressing specific goals within the National Goals 2000.

Even Start. The name speaks equality, fairness, balance. **Even Start** affirms the value of parents and their children by providing literacy programs which take them from here to there. Together. The "here" is a place where a family needs to improve its educational status or to learn English or to secure the children's chance for success in school. "There" is the comfort zone of higher reading and math skills, of GED [General Equivalency Diploma] certification for adults, and of language development for children; it might be a place of employment or a place meeting grade level expectations for a child.

Even Start programs are family literacy programs based on the belief that educating a family, intervening with at least two generations of a family, secures the advancement of parents and children in the present and in the future. Literacy is a family legacy. When parents value education, their children have a better opportunity to succeed in school. And the reverse is true. The child of parents with low literacy skills is less likely to have educational opportunities outside the home or to be enrolled in pre-kindergarten programs. Once the child enters school, he/she does less well than children of parents who value education and have high literacy skills.

A national evaluation report has recently been released for the 1994-95 program year, when **Even Start** served 31,000 families in some 513 local projects. The study involved a total of 534 children (now in grades K-5) and 536 adults. Comparison data were gathered from 194 children randomly selected from some of the same classes. Data revealing attendance, academic progress, special placements or needs, test scores, disciplinary history, and teacher ratings were obtained from interviews and school records. Using procedures and forms designed at the National Center for Family Literacy, local staff collected and submitted data in January and February of 1997.

Children in EVEN START programs achieved high results in school.
The primary purpose of the **Even Start** family literacy programs - to break the intergenerational cycle of undereducation and poverty - shows evidence of being achieved. School success for children is among the strongest predictors of their educational and financial success as adults. For all the children studied, the **Even Start** group was as high or higher on all comparisons made with the randomly-selected sample of children.

Unlike the children in the national studies of kindergarten, where 35% of students were not "ready" to enter that grade-level, the **Even Start** children were ready to learn when they entered kindergarten and throughout that year. Eighty per cent or more were rated at or above the average of their class on all factors by their kindergarten teachers. Former **Even Start** students are successful in grades three, four, and five, as well. In the third grade, 75% of **Even Start** children were at or above their class on almost all factors. Typically these children would have been at-risk for failure in school.

Children in all grades show improvement. Further evidence of success for former **Even Start** students in their academic programs is revealed through grades, test scores, and other reports by teachers. Some 90% of **Even Start** children show satisfactory grades in reading, language, and mathematics, a higher percentage than in the random samples of children.

Because families who break the intergenerational cycle of underachievement must become engaged in the education and schooling of their children, researchers at the National Center for Family Literacy looked for evidence of that engagement in follow-up studies. No longer are the parents who participated in **Even Start** family literacy programs estranged from school. Teachers gave significant evidence of parental support, citing that support in school and in the school work of their children as a major strength for more than two-thirds of the children.

The above information is adapted from *Even Start: Effective literacy program helps families grow toward independence* (1997). Copies of this publication, or of the technical report supporting the research referenced in the document, are available from the National Center for Family Literacy, Waterfront Plaza, 325 W. Main Street - Suite 200, Louisville, Kentucky 40202-4251 (502-584-1133).

Of Primary Interest

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"BETWEEN A ROCK AND A HARD PLACE IN THE PRIMARY GRADES"

Research literature which focuses on the primary grades highlights the unease which often exists between the culture and expectations of early childhood education (involving children from birth to age five) and the culture and expectations of the elementary school (where the primary grades provide early childhood education for children from ages five to eight). This unease or "mismatch" is a source of challenge, frustration, and tension for primary-grade teachers who are committed to implementing best practices in their classrooms. The "mismatch" often results in teachers' believing that elementary schools are difficult places in which to provide quality early childhood programs for primary-age students.

In an article entitled ***"Between A Rock and A Hard Place in the Primary Grades: The Challenge of Providing Developmentally Appropriate Early Childhood Education in an Elementary School Setting,"*** Lisa S. Goldstein, of the University of Texas at Austin, describes the consequences of this conflict between early childhood and elementary school philosophy and objectives. Goldstein spent some 150 hours, over a period of three months, in a multi-age classroom composed of children who, in a traditional setting, might be labeled as kindergartners, first-graders, and second-graders. The teacher was attempting to implement developmentally appropriate primary-grade practices in the context of a supportive environment. Goldstein debriefed with the teacher, after each morning she spent in the classroom, and wrote thorough field notes. Additionally, teacher and researcher had several lengthy conversational interviews, and the two of them corresponded regularly in a dialogue journal.

Goldstein's observations began as a part of her research for an ethnography, which focused on the nature and role of caring relationships in early childhood education. When she finished the ethnography, she re-analyzed the data she had compiled, with a different question in mind, "revealing a host of details, observations, and nuances that were invisible in my first pass through the materials." What she concluded was that there are three issues which affect the implementation of developmentally appropriate practice in the primary grades:

- **personal interpretation,**
- **partial adoption,** and
- **inconsistency in implementation.**

"All teachers must constantly make choices and juggle competing demands," according to Goldstein, but

> *personal interpretation becomes troublesome, however, when teachers' understanding of DAP (developmentally appropriate practice) are cloudy, off base, or just plain wrong. Many teachers claim to be "doing DAP" while engaging in an astounding variety of practices (Wien, 1995). How much leeway do teachers have in interpreting DAP? In what settings and under what circumstances might personal values and understandings take precedence over by-the-book adherence to the principles of developmentally appropriate practice?*

Goldstein cites two reasons for the partial adoption of developmentally appropriate practice in the primary grades: the inevitable compromise dictated by state requirements for proficiency and knowledge, and the unclear, precise balance needed between teacher-direction and child-choice. She writes that

> *Though child interest is an important facet in the guidelines for developmentally appropriate practice and may reign supreme in a DAP preschool setting, child interest may not be the sole yardstick against which curricular decisions can be made in an elementary school setting.*

When she discusses the inconsistency in the implementation of developmentally appropriate practice, Goldstein suggests that maybe the demands of the classroom are such that the teacher has no time or opportunity for reflection. Perhaps another explanation might be that teachers misunderstand or misinterpret the central values of DAP, when they are placed "in the role of arbiter of what activities are appropriate for any given child (Jipson, 1992)." She concludes, however, that

> *Inconsistency is not a problem but a fact of life in the open-ended, complicated teaching profession. ...Struggles with internal contradictions in... practice remind us that providing exemplary early childhood education is an on-going process; even the most experienced and outstanding teachers never reach a state of professional perfection. Inconsistency in implementation of DAP is to be expected; a commitment to reflection, and opportunities for continuing professional development serve as ways to ensure that teachers are working toward new depths of understanding of their own practice and of the notion of developmentally appropriate practice.*

Goldstein readily admits that those teaching in the primary grades are left with more questions than answers, and writes that these professionals will continue to feel alienated and frustrated until the conflict between early childhood and elementary school philosophy and objectives, and the issues which are consequences of this conflict, are addressed and resolved.

"Between A Rock and A Hard Place in the Primary Grades: The Challenge of Providing Developmentally Appropriate Early Childhood Education in an Elementary School Setting," was published in the ***Early Childhood Research Quarterly***, 12, 3-27 (1997). Its author, Lisa S. Goldstein, may be reached at the Department of Curriculum and Instruction, 244 SZB, University of Texas-Austin, Austin, Texas 78712.

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Ready or Not...Preparing Young Children for the {Kindergarten} Classroom

Just when you've settled into the routine of the school year, it's time to think ahead to next year. With many preschools and kindergartens now taking applications for next fall, parents may find themselves asking: Will my child be ready? Will he measure up?

There is no one quality or skill that children need to do well in school—a combination of factors contribute to school success. These include physical well-being, social and emotional maturity, language skills, an ability to solve problems and think creatively, and general knowledge about the world. School success also depends upon the "match" between children's skills and knowledge and the school's expectations. More children succeed when these expectations reflect knowledge of child development and early learning.

Here are some suggestions of how parents and schools can promote a good match for every child.

Parents can:

1. **Take advantage of learning opportunities in every day activities.** These will make a big difference in preparing young children for the classroom.

2. **Promote good health and physical well-being.** Children obviously need nutritious food, enough sleep, safe places to play, and regular medical care. In addition to medical and dental checkups and immunizations, preschoolers need opportunities to exercise and develop physical coordination. Throwing balls, running, jumping, climbing, dancing to music—all of these activities will enhance coordination and help children learn important concepts such as up, down, inside, outside, over, and under.

3. **Support your child's social and emotional development.** Children who are kind, helpful, patient, and loving generally do better in school, and feeling good about oneself is an important aspect of developing desirable social skills. Tell your child how glad you are to be his parent. Set a good example for your preschooler by showing what it means to get along with others and to be respectful. Give children chances to learn about sharing and caring, for example, letting them feed hungry birds, or helping them make cookies to welcome a new neighbor.

4. **Build your child's language and general knowledge.** There are many things you can do to help your child learn to communicate, and develop an understanding of the world. Don't underestimate the value of play! Play allows children to explore, be creative, and develop social skills. It also paves the way for academic learning. For example, children learn key concepts important in geometry while stacking blocks, and playing with others helps with negotiation skills.
Talk to your children. Everyday activities, such as eating lunch, cleaning up toys, or taking a bath, provide opportunities to talk. Listening and responding to a child is the best way to learn what's on her mind, to discover what she knows and doesn't know, and how she thinks and learns. Listening also shows children that their feelings and ideas are valuable. Finally, read together frequently. Fostering your child's love of books is a gift that will last a lifetime.

5. **Not assume a child with a late birth date should be held out of school.** Research shows that children receive little, if any, advantage when held out of school because of late birth dates. And, the practice may have a negative impact on other children by encouraging school expectations better suited to older children.

Schools can:

1. **Be prepared to respond to a diverse range of abilities within any group of young children.** Small group sizes with enough teachers who are skilled in early childhood education make it easier to provide the individualized attention every child deserves.

2. **Offer a curriculum and teaching practices that reflect principles of child development and learning** and provide many active, meaningful learning opportunities that build upon children's existing knowledge and abilities.

There is no one quality or skill that children need to do well in school—a combination of factors contribute to school success.

3. **Make sure expectations of children are reasonable and age-appropriate.** Even children who have received every advantage prior to school struggle when demands are too great, experiencing stress and having their confidence as learners undermined.

4. **Not use tests as the primary measure for entry decisions.** Developmental screening to detect a health problem or developmental disability is important to ensure early diagnosis and treatment, but tests should not be used to determine school entry for three reasons: (1) Children are not good test takers, especially with strangers in unfamiliar settings. (2) Young children are growing and learning rapidly; test results may change greatly in six months. (3) Tests too often ignore language and culture variations and may not give a true picture of a child's skills and knowledge.

Tests should not be used to determine school entry.

Additional Resources

Washington, V., Johnson, V. and McCracken, J.B. 1995. *Grassroots Success! Preparing Schools and Families for Each Other.* Washington, DC: NAEYC. Order #722 / $8.

NAEYC. 1995. *Ready or Not: What Parents Should Know about School Readiness.* Washington, DC: NAEYC. Order #554 / 50¢ each or 100 for $10.

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READY SCHOOLS

Rima Shore

To the National Education Goals Panel, ensuring that children start school ready to learn is vitally important. But ensuring that schools are ready for children is important as well. Recognizing that good education means both ready children and ready schools, the Goals Panel convened a special group of advisors and asked them to identify what makes a ready school. A report, ***Ready Schools***, is the result of their efforts. It recommends ten specific approaches found in successful elementary schools and documented by research to be keys to ready schools.

Ready schools are learning organizations that alter practices and programs if they do not benefit children (Recommendation 7).

Many districts and schools continue to make use of strategies that have not consistently promoted their children's development or learning, and have failed to show lasting benefits in research studies. It is often difficult to eliminate such practices or policies, but in many cases, schools have been able to fund very effective programs or services by cutting ineffective ones. The following four practices are prime examples:

• **Retention and extra-year programs**
Well over half of the schools surveyed in the National Transition Study (61 percent) routinely retain kindergarten children. About five percent of kindergartners in those schools are held back—an average of one per classroom. The great majority of elementary schools (73 percent) either retain children in kindergarten or place them in transition classes for an extra year either before or after kindergarten. In these schools, 18 percent of kindergartners are assigned an extra year of schooling. Data show that low-income minority students, especially males, have the highest rate of retention. Language-minority students are more likely than native speakers of English to be held back. Since expenditures for each public school student now average well over $6,000 per year, retention and extra-year programs are extremely expensive strategies.

Critics argue that the funds spent on such programs might better be used to provide early diagnosis and intensive intervention and tutoring. Such early help would be pedagogically sound. In most cases, retention means more of the same kind of teaching and is unlikely to spark achievement. Instead, a different, more focused, more individualized intervention has a better chance of putting a low-achieving student on track for success. *Wherever possible, children should not be retained.*

• **Redshirting**
For decades, most first-graders have been 6 years old, but this trend is changing. In 1972, one in eight first-graders was age 7 or older; in 1994, the figure was one in five. This reflects not only the increasing rate of retention and extra-year programs, but also a trend for parents to elect to keep 5-year-olds at home or in preschool for an extra year.

Today, many parents delay kindergarten entry for their children—particularly middle-class and wealthy parents, for whom an extra year of preschool or child care is not a hardship. This practice is known as redshirting. Many parents, especially parents of boys, assume that at age 6, a child will be better prepared for success in kindergarten—more mature socially, cognitively, and physically. On the other hand, low-income and working-class parents, including the vast majority of parents of color, are less likely to delay their children's kindergarten enrollment. These 5-year-olds may enter kindergarten with the 6-year-olds of more prosperous parents—children from homes that are more closely aligned with the culture of the school, who already have a firmer grasp of the rules of the game. Thus the social and educational gap widens.

Delaying kindergarten entry may have negative as well as positive effects on the children involved, according to a recent study published in ***Pediatrics***. The long-term study of more than nine thousand students showed that children who start school late show higher rates of behavioral problems later in their school careers. These problems were not apparent in the primary grades, but became very evident in the middle and high school years.

• **Denying school entry**
School districts around the nation have set their own guidelines for age of kindergarten entry—most at age 5. Some make individual decisions about school entry based on assessments of children's development. *Ready schools accept all children on the basis of chronological age.* They assume that any group of 5-year-olds will exhibit a wide range of developmental traits; *they do not exclude children or delay their entry on the basis of tests or interviews.* They may conduct assessments in order to facilitate planning or assess individual strengths and weaknesses, but not to determine school eligibility.

Like redshirting, *denying school entry is unfair and unnecessary.* Schools, committed to meeting children at the level of their own development and taking into account variations among children and among the diverse competencies of each individual child, do not need to deny children school entry. Ready schools admit and serve all children when they reach the chronological age set by the district for school entry.

• **"Pushing down" or "hothousing"**
These terms refer to an approach that stresses accelerating academic instruction of young children at younger and younger ages. In particular, "pushing down" refers to pushing down the first-grade curriculum into the kindergarten classroom.

Some researchers suggest that this approach undermines the social and academic development of young children because the presentation of letter and number facts are typically decontextualized and not connected to children's real lives. Nevertheless, kindergarten education continues to increase academic demands, particularly in schools serving disadvantaged students. In these settings, *an accelerated kindergarten program may be seen by parents, administrators, and teachers as a way to prevent future failure. To date, there have been few systematic studies of this approach, and little is known about its long-term effects.* However, the prevailing view is that young children learn in the context of relationships, and benefit from curricula and classroom practices rich in experiential learning, play, and social experience.

References

Love, J.M., Logue, M.E., Trudeau, J.V., & Thayer, K. (1992). ***Transitions to kindergarten in American schools: Final report of the National Transition Study***. Washington, DC: U.S. Department of Education.

Byrd, R.S., Weitzman, M., & Auinger, P. (1997). ***Increased behavior problems associated with delayed school entry and delayed school progress***. **PEDIATRICS** 100(4):654-661.

National Institute on the Education of At-Risk Students. (1997). ***Project description: Effective preschool and kindergarten***. Baltimore, MD: The Johns Hopkins University.

National Association of State Boards of Education. (1988). ***Right from the start: The Report of the NASBE Task Force on Early Childhood Education***. Alexandria, VA: Author.

The above article is reprinted from Shore, Rima. (1998). ***Ready Schools (A report of the Goal 1 Ready Schools Resource Group)***. Washington, DC: National Education Goals Panel (pp. 2, 24-25). The National Education Goals Panel may be contacted at 1255 22nd Street, NW, Suite 502, Washington, DC 20037, 202-724-0015 (voice), 202-632-0957 (fax), <NEGP@goalline.org> (e-mail), and <http://www.negp.gov>.

Guidelines for Developmentally Appropriate Practices

The context in which early childhood programs operate today is characterized by ongoing discussion between parents, teachers, and the research community about how best to teach young children and what sort of practice is most likely to contribute to their development and learning. Since the original NAEYC developmentally appropriate practice guidelines were published in 1987, a considerable number of studies have examined the topic.

Recent data show that many teachers who say they believe in developmentally appropriate practice do not have developmentally appropriate classrooms. A recent study of kindergarten teachers found that more than half demonstrated conflicts between their philosophy of early childhood education and their classroom practices. Data also indicate that teachers who receive inservice training on developmentally appropriate practices via workshops, site visits, and journal reflections reported a greater tendency to use these practices in the classroom.

There is no singular formula for developmentally appropriate practice. Rather, teachers use these strategies to make day-to-day decisions based on the individual children, their families, and the social and cultural context.

Following are the five basic guidelines for developmentally appropriate practice:

Create a caring community of learners. Developmentally appropriate practices support the development of relationships between adults and children, among children, among teachers, and between families and teachers.

Teach to enhance development and learning. Early childhood teachers strive to achieve a balance between guiding children's learning and following their lead.

Construct appropriate curriculum. The content of early childhood curriculum includes the subject matter, social or cultural values, parents' input, and the age and experience of the children.

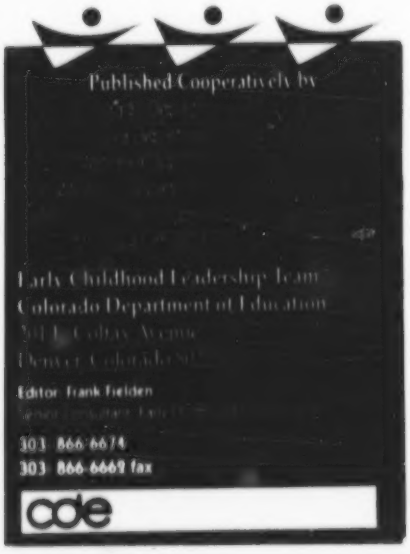
Assess children's learning and development. Assessment of individual children's development and learning is essential for planning and implementing appropriate curriculum.

Establish mutually beneficial relationships with families. Developmentally appropriate practices evolve from a deep knowledge of individual children and the context within which they develop and learn. The younger the child, the more necessary it is for caregivers and teachers to acquire this knowledge through relationships with children's families.

Developmentally appropriate practices will continue to receive close scrutiny—which is a plus—because the more we learn about teaching and learning in early childhood environments, the better our children will grow and prosper.

Additional Resources

Bredekamp, S. & Copple, C., eds. 1997. *Developmentally Appropriate Practice in Early Childhood Programs*. Rev. ed. Washington, DC: NAEYC. Order #234 / $8.



A recent study of kindergarten teachers found that more than half demonstrated conflicts between their philosophy of early childhood education and their classroom practices.

Bredekamp, S. & Rosegrant, T., eds. 1992. *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Vol. 1*. Washington, DC: NAEYC. Order #225 / $7.

Bredekamp, S. & Rosegrant, T., eds. 1995. *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Vol. 2*. Washington, DC: NAEYC. Order #227 / $8.

Dunn, L. & Kontos, S. 1997. *What Have We Learned About Developmentally Appropriate Practice?* **Young Children**, 52(5): 4-13.

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Preventing Reading Difficulties in Young Children

Controversies over how to teach reading have diverted attention from the most important factors affecting how a child learns to read.

Individuals and institutions, including government agencies, must move beyond counterproductive debates and take steps shown by research to be effective, says a National Research Council committee in its report *Preventing Reading Difficulties in Young Children.* Too many children are leaving American schools without the reading skills they need to get good jobs and fulfill the responsibilities of citizenship. As society has become increasingly technological, the demands for literacy have grown substantially, and the consequences for those who fall short have become more grievous.

Language-rich preschool environments, reducing the risk factors that increase the likelihood of reading problems, provision of excellent reading instruction, and intensive professional development for teachers are all important in helping children become successful readers. In addition, efforts to prevent reading difficulties need to be targeted at children with hearing, language, or cognitive difficulties and children from poor neighborhoods or whose parents had difficulty learning to read. Some children may require extra reading instruction, and accommodations for their disability may be necessary throughout their lives.

Elements of good teaching

Quality reading instruction in the primary grades is the single best defense against reading failure, overcoming even the effects of childhood backgrounds that increase the risk of reading difficulties.

Effective instruction requires that teachers focus on the relationships between letters and sounds, the process of obtaining meaning from print, and practice for fluency, the committee says. Ignoring any of these areas increases the possibility that reading will be delayed or impeded.

Research indicates that getting started in reading depends on knowing how to map the letters and spellings of words onto the sounds and speech units they represent. At the same time, teachers should develop students' comprehension by building linguistic and conceptual knowledge beginning in the earliest grades, and fluency through rich opportunities to read.

The committee outlines steps that need to be taken to ensure that children in kindergarten through third grade learn to read well. It also notes that children with reading problems need to receive not different but more focused, more intense, and more individualized instruction. Schools with greater numbers of at-risk children should have extra resources to provide the instruction needed to prevent reading problems.

Preschool preparation

Children must arrive in first grade with strong language and cognitive skills and already motivated to learn to read. To build this foundation for reading, home and preschool settings should provide storytelling and book reading to stimulate verbal interaction and build vocabulary, opportunities for songs and word games that direct young children's attention to the sound structures of spoken words, and other activities that highlight the relation between print and speech.

Families need affordable preschool opportunities that offer rich language and literacy environments, the committee says. Especially as more children from lower-income families enter group care as a consequence of welfare reform, the preschool opportunities available to these families must support the development of literacy.

Children who need extra support for early language and literacy development should be identified as soon as possible. Government agencies and educators should provide parents, pediatricians, and preschool professionals with guidelines regarding what children should be able to do and where to turn if there is concern that a child's development is lagging.

Limited English proficiency

The abilities and needs of non-English speaking students vary greatly, as do the resources available in different communities to meet their needs. In general, however, hurrying these young children into reading in English without adequate preparation is counterproductive, the committee concludes. If feasible, children should be taught how to read in their native language while learning to speak in English, after which they can extend their skills to reading English.

Training and professional support

A well-designed classroom reading program delivered by a competent teacher can bring most primary grade students to the levels of reading proficiency expected in those grades. But many teachers do not have the training and skills needed to teach reading effectively. State certification requirements and teacher education curricula should be changed to ensure that all teachers understand how literacy develops in children and the role of instruction in optimizing that development in diverse groups of students.

Teachers need professional development that spans their training and careers to address reading instruction needs. In addition, every school should have access to a

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100 Most Frequent Words in Books for Beginning Readers

Elena Bodrova, Deborah J. Leong, & Dmitri Semenov
R.O.A.D. to Literacy
McREL (Mid-Continent Regional Educational Laboratory)

As young children begin to read their first books, teachers often use lists of frequent words to help children expand their reading vocabularies. The most common type of list is based on the frequency of words in books encountered by all readers or by all elementary school children from kindergarten through sixth grade (e.g., Dolch List or Instant Word List). While important guideposts for later learning, these lists may not reflect the types of words encountered by children as they first begin to read. Thus it would be a better investment of time if young children used frequent word lists that more closely matched the reading material that they would actually encounter. The list would then more directly influence early reading skills.

To examine whether or not the most frequent words encountered in early readers were the same as those found in these broader based lists, we conducted a survey of 1,000 books that were designed for this early instructional level. These books were typically labeled as pre-primer, early readers, first readers, Level 2.0 and below, and first primers. The books were given to us by the 11 book publishers that are listed at the end of this article. The criteria used for inclusion of a book in the current survey were the donation and/or loan of the book for input into the computer. The books used in the survey are representative of those adopted by schools for kindergarten and first grade.

The current survey is based on over 100,000 words. Of these, 5,264 were different words in 20,118 sentences. The ranking of words was based on the number of books in which the word was used, not the number of times the word was used. Because so many of these early books had repeated use of the same word in a sentence and also the repeated use of a specific sentence within the book, the sample would have become overly biased had a strict word count been used.

A preliminary statistical comparison was made between the ***100 Most Frequent Words in Books for Beginning Readers*** and the other lists being used in most classrooms. A comparison between the Beginning Readers list and the Dolch List (Buckingham & Dolch, 1936) and the Instant Word List (Fry, Kress & Fountoukidis, 1993) found that there was less than a 75% overlap between the lists. A comparison with Gentry's list (1991) of the most frequently written words by young writers revealed a similar discrepancy. Finally a comparison with a list of words found in standardized tests for the kindergarten level (Marzano, Kendall & Paynter, 1988) also revealed significant differences between the words listed and those found in beginning readers. We are currently doing a more detailed content analysis of the lists to determine the specific differences.

Copies of the ***100 Most Frequent Words in Books for Beginning Readers*** are available free of charge, provided that the list is not altered in any way and that the original copyright notice is clearly visible on any copy of the document. Copies of the list are also available free of charge on the web at <http://www.mcrel.org/resources/literacy/road>. As new books are added to the data base, the current list will be updated on the Internet. Suggestions and questions can be sent to: <dsemenov@mcrel.org>.

References:

Buckingham, B. R., & Dolch, E. W. (1936). ***A Combined Word List.*** Boston, MA: Ginn and Company.

Fry, E. B., Kress, J. E., & Fountoukidis, D.L. (1993). ***The Reading Teacher's Book of Lists*** (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Gentry, J. R., & Gillet, J. W. (1991). ***Teaching Kids to Spell.*** Portsmouth, NH: Heineman.

Marzano, R. J., Kendall, J. S., & Paynter, D. E. (1988). ***The Analysis and Identification of Basic Words in Grades K–6.*** Aurora, CO: Mid-Continent Regional Educational Laboratory.

Elena Bodrova, Deborah Leong, and Dmitri Semenov are researchers at McREL (Mid-Continent Regional Educational Laboratory) in Aurora, Colorado. They are currently working with the Early Childhood Leadership Team at the Colorado Department of Education to begin to identify milestones in the development of literacy in preschool to first grade, which will assist teachers and parents in knowing whether or not a child is moving at a reasonable rate towards the attainment of literacy standards in third and fourth grades. They may be reached at McREL, 2550 South Parker Road, Suite 500, Aurora, CO 80014-1678, (303) 337-0990 (voice), (303) 337-3005 (fax), and <dsemenov@mcrel.org> (e-mail).

List of Publishers and Book Series:

1. ARO Publishing—21 books,
   - Series—Funny Farm Books
   - Levels—10 word book, 20 word book, 30 word book
2. Creative Teaching Press—24 books,
   - Series—Science Series
   - Levels—Emergent Reader Level I, Emergent Reader Level II
3. Houghton Mifflin—18 books
   - Series—Watch Me Read
   - Levels—1.1–1.5, 2.1, 2.2, K
4. Modern Curriculum Press—248 books
   - Series—Ready Readers
   - Levels—Stage 1,2,3,4,5
5. Mimosa Publications—24 books
   - Series—Literacy 2000, Sets A,B,C
6. Newbridge—35 books
   - Series—Earth & Beyond, Food & Nutrition, Life Cycles, Physical Science, Plants, Systems, World of Animals
7. Richard C. Owen—21 books
8. Rigby—146 books
   - Series—Literacy Tree, Animal Antics; Literacy Tree, Food and Fun; Literacy Tree, Let's Get Together; Literacy Tree, Out and About; Literacy Tree, Safe and Sound; Literacy Tree, Times and Seasons; Literacy Tree, Welcome to My World; Literacy Tree, Work and Play
   - New PM Story Books
   - PM Starters One
   - Smart Start, Sets C,D
9. Sundance—90 books
   - Series—Little Red Readers, The Book Project, The Book Shop
10. Steck Vaughn—50 books
    - Series—Pair-It Books
    - Levels—Emergent Stage 1, Emergent Stage 2
11. Wright Group Publishing—333 books
    Sunshine Series (Levels—1, K)
    - Alphabet Books
    - Classroom Library for Independent Reading, Sets E,F,G,H,I,J
    - Community Books, Concept Books, Dictionary
    - Fiction, Guided reading, Sets A,B,C,D
    - Fiction, Independent Reading, Sets A, AA, B, BB, C, CC, D, DD
    - Language Skills Books, Set E
    - Nonfiction, Guided Reading, Sets A,B,C,D
    - Read-Togethers, Read Alouds
    - Rhymes to Read, Read Alouds
    - Traditional Rhymes
    - Traditional Stories, Read Aloud
    - Word Books.

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List of the 100 Words Most Frequently Used in Books for Beginning Readers

1 the	26 he	51 be	76 cat
2 a	27 out	52 now	77 them
3 and	28 that	53 when	78 tree
4 to	29 one	54 there	79 where
5 I	30 big	55 into	80 away
6 in	31 go	56 day	81 time
7 is	32 was	57 look	82 as
8 on	33 like	58 eat	83 water
9 you	34 what	59 make	84 home
10 it	35 not	60 his	85 made
11 of	36 do	61 here	86 long
12 said	37 then	62 your	87 has
13 can	38 this	63 an	88 help
14 for	39 no	64 back	89 good
15 my	40 too	65 mom	90 going
16 but	41 she	66 dog	91 by
17 all	42 went	67 very	92 how
18 we	43 see	68 did	93 house
19 are	44 will	69 her	94 dad
20 up	45 so	70 from	95 or
21 at	46 some	71 had	96 two
22 with	47 down	72 got	97 red
23 me	48 little	73 put	98 am
24 they	49 come	74 came	99 over
25 have	50 get	75 just	100 saw

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<http://www.mcrel.org/resources/literacy/road>

Helping Children Learn About Reading

Why read a book to an infant who does not yet know the meaning of a word or of words at all? Why sing to a toddler who cannot understand your song?

Both of these activities help children make connections between words and meaning. They also help to create a warm, safe environment for children and lead to a lifetime love of reading and learning.

Some parents assume that learning to read starts with memorizing the alphabet and sounding out words, but actually the fundamentals of reading begin much earlier. Adults lay the foundation for reading every day, when they point out objects and describe what they are doing while dressing an infant, grocery shopping with a toddler, or cooking with a preschooler.

The most important thing is that teaching children about reading becomes an activity that brings children closer to the caring adults in their lives. Here are some tips for families who want to help their children make connections between meaning and words.

Infants

- Talk or sing to your baby when you change his diaper, give him a bath, feed him lunch or join him in play.
- Introduce cardboard or cloth books with brightly colored pictures. Be aware that at this point, your baby might enjoy looking at, tossing, or chewing the books more than being read to!
- Help increase your baby's vocabulary by playing "What's that?" or "Where's the teddy bear?" when enjoying books together.
- Point out words on signs at the park, at the zoo, or when walking or driving.
- As children begin to notice letters on blocks or other toys, name the letters for them. Read words aloud and explain what they mean.

Toddlers

- Reading stories before bed makes a good transition between active play and restful time. Toddlers may ask you to read their favorites repeatedly. They may begin to connect pictures with words, or fill in missing words if you hesitate.
- Let toddlers "write" shopping lists with you. They may want to watch you sort coupons and engage in other grocery store activities.
- Take short trips to new places and talk about what is happening around you. If possible, read together about similar events before-hand and again afterwards.
- Give children magnetic letters for the refrigerator, and begin spelling out words and names as toddlers are introduced to them.

Preschoolers

- Encourage preschool children to carry out the steps to written recipes, or read printed labels at the store.
- At four or five, children may begin to ask questions about the print they see in books. Books with labeled pictures help children to connect words and objects more easily.
- Play picture-card games with your child—but remember, they may not always play by the rules at this age!
- Provide a variety of materials to encourage children to "play" at writing and reading—checks or traffic tickets, menus or greeting cards.

Primary grade children

- Continue to read with your child, especially at bedtime, even if she has already learned to read.
- Visit the library on a regular basis to make books a regular part of children's lives. Show children that you read books and magazines for information and enjoyment.
- Listen to the stories children write, as well as their jokes or riddles. Encourage them to write down their ideas.
- Play word games such as Boggle or Scrabble with your child.

> Children must arrive in first grade with strong language and cognitive skills and already motivated to learn to read.

Five Basic Guidelines for Developmentally Appropriate Practice

1. **Create a caring community of learners.**
2. **Teach to enhance development and learning.**
3. **Construct appropriate curriculum.**
4. **Assess children's learning and development.**
5. **Establish mutually beneficial relationships with families.**

Additional Resources

Schickedanz, J.A. 1994. *Helping children learn about reading*. Washington, DC: NAEYC.

National Black Child Development Institute. 1995. *Young children and African American literature*. Washington, DC: NAEYC.

The above article is part of the series ***Early Years Are Learning Years,*** produced by the **National Association for the Education of Young Children.** Reproduction of this material is freely granted, provided credit is given to **NAEYC.** The organization may be reached at 1509 16th Street, N.W., Washington, DC 20036-1426; by telephone at (800) 424-2460; by fax at (202) 328-1846; and by e-mail <http://www.naeyc.org/naeyc>.

> Quality reading instruction in the primary grades is the single best defense against reading failure, overcoming even the effects of childhood backgrounds that increase the risk of reading difficulties

Examining the Transition into Kindergarten

Initial results from an eight-page survey sent to nearly 11,000 public and private kindergarten teachers

Kindergarten teachers say a major barrier to their helping more with children's transitions into kindergarten is that class lists are generated too late, according to a new national survey by the National Center for Early Development & Learning (NCEDL).

If class lists were received earlier, teachers could more easily arrange meetings with parents and children before kindergarten begins, a recommended practice.

The 3,824 kindergarten teachers who responded to the survey were asked to select barriers to implementing additional transition practices from a list of 16 possible barriers. The three most commonly selected barriers were *"class lists are generated too late"* (53%), *"requires work in the summer that is not supported by salary"* (45%), and *"a transition plan is not available in the school district"* (41%).

Teachers also indicated that although they believe a majority (52%) of children experience a *"very successful, virtually no problems"* entry into kindergarten, an estimated third of children (32%) have only *"moderately successful entries"* into kindergarten, and that a significant minority (16%) have a *"difficult or very difficult entry, serious concerns, or many problems."*

Of the 23 practices that were listed to help children make the transition to kindergarten, the most common ones all occurred after school had already started. The least common practices involved visiting the child's home.

§ **three most common**
- talk with parents after school starts (95%)
- letter to parents after school starts (88%)
- open house after school starts (81%)

§ **three least common**
- visit to the home before school starts (9%)
- visit to the home after school starts (12%)
- a call to the child before school starts (13%)

The survey was sent in late 1996, and the data began to be analyzed in the spring of 1997. The survey provided information on the relative frequency of transition practices (before and after kindergarten starts), their perceived effectiveness by teachers, strategies that teachers use, and barriers that teachers see to using effective practices.

Complete results of the survey will be published later this year and were to be showcased in a symposium to be held this spring at meetings of the American Educational Research Association. The survey is one of five projects in NCEDL's Kindergarten Transitions strand, which is examining how relationships within school, home, and community affect transition outcomes for children. Directors of the Kindergarten Transition strand are Martha Cox at the Frank Porter Graham Center and Robert Pianta at the University of Virginia. NCEDL is administratively housed at Frank Porter Graham.

The above article, reprinted with permission, appeared in ***EARLY DEVELOPMENTS*** (Volume 2, No. 1, pp. 12–13, Spring 1998), a publication of the Frank Porter Graham Child Development Center of the University of North Carolina at Chapel Hill. Its editor, Loyd Little, may be reached by phone at 919-966-0867, or by e-mail at <loyd_little@unc.edu>.

Preventing Difficulties from page 1

variety of reading specialists who can provide special instruction for children with reading difficulties.

Volunteer tutors can help by reading to children, giving children supervised practice in oral reading, and creating opportunities for enriching conversation, but they are unlikely to be able to deal effectively with children who have serious reading problems.

Contributions of research

Several issues warrant ongoing attention from researchers. Better assessment tools are needed to determine when children have reached reading goals, when they require extra help, and when their difficulties have been overcome. In addition, educators need better guidance on how to design literacy instruction for students with limited or no English proficiency, the role of holding students back a grade to prevent reading difficulties, and the specific attributes of effective classroom instruction and reading interventions.

However, remaining uncertainties should not delay the application of what is known. By building on the results of reading research, parents, teachers, policy-makers, and others can help children achieve the levels of literacy needed for success in today's society.

This report brief is copyrighted by the National Academy of Sciences and may be reproduced in its entirety, with no additions or alterations. The entire report (***Preventing Reading Difficulties in Young Children,*** National Research Council, 1998) is available from the National Academy Press in Washington, DC, 800-624-6242, for $45.00 per copy plus $4.00 for shipping and handling. The study was funded by the U.S. Department of Education and the Department of Health and Human Services.

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Continuum of Children's Development in Early Reading and Writing

Continuum of Children's Development in Early Reading and Writing is a section of *Learning to Read and Write: Developmentally Appropriate Practices for Young Children*, a joint position statement of the International Reading Association (**IRA**) and the National Association for the Education of Young Children (**NAEYC**). The entire position statement, adopted this year, may be found in the July 1998 issue of **YOUNG CHILDREN**, Volume 53, Number 4, pages 30-46, and accessed on the internet at <http://www.naeyc.org./about/position/psread98.pdf>. As a position statement, it is in the public domain and may be reproduced as such with the appropriate citation(s).

Phase 1: Awareness and exploration

(goals for preschool)

Children explore their environment and build the foundations for learning to read and write.

Children can

- enjoy listening to and discussing storybooks
- understand that print carries a message
- engage in reading and writing attempts
- identify labels and signs in their environment
- participate in rhyming games
- identify some letters and make some letter-sound matches
- use known letters or approximations of letters to represent written language (especially meaningful words like their name and phrases such as "I love you")

What teachers do

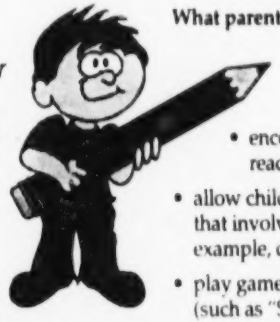
- share books with children, including Big Books, and model reading behaviors
- talk about letters by name and sounds
- establish a literacy-rich environment
- reread favorite stories
- engage children in language games
- promote literacy-related play activities
- encourage children to experiment with writing

What parents and family members can do

- talk with children, engage them in conversation, give names of things, show interest in what a child says
- read and reread stories with predictable text to children
- encourage children to recount experiences and describe ideas and events that are important to them
- visit the library regularly
- provide opportunities for children to draw and print, using markers, crayons, and pencils

Phase 2: Experimental reading and writing *(goals for kindergarten)*

Children develop basic concepts of print and begin to engage in and experiment with reading and writing.



Kindergartners can

- enjoy being read to and themselves retell simple narrative stories or informational texts
- use descriptive language to explain and explore
- recognize letters and letter-sound matches
- show familiarity with rhyming and beginning sounds
- understand left-to-right and top-to-bottom orientation and familiar concepts of print
- match spoken words with written ones
- begin to write letters of the alphabet and some high-frequency words

What teachers do

- encourage children to talk about reading and writing experiences
- provide many opportunities for children to explore and identify sound-symbol relationships in meaningful contexts
- help children to segment spoken words into individual sounds and blend the sounds into whole words (for example, by slowly writing a word and saying its sound)
- frequently read interesting and conceptually rich stories to children
- help children build a sight vocabulary
- create a literacy-rich environment for children to engage independently in reading and writing

What parents and family members can do

- daily read and reread narrative and informational stories to children
- encourage children's attempts at reading and writing
- allow children to participate in activities that involve writing and reading (for example, cooking, making grocery lists)
- play games that involve specific directions (such as "Simon Says")
- have conversations with children during mealtimes and throughout the day

continues on page 2

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Phase 3: Early reading and writing *(goals for first grade)*

Children begin to read simple stories and can write about a topic that is meaningful to them.

First-graders can

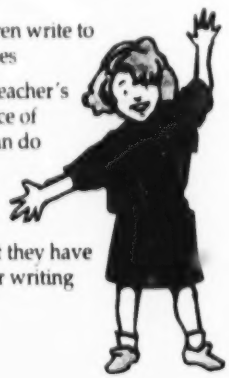
- read and retell familiar stories
- use strategies (rereading, predicting, questioning, contextualizing) when comprehension breaks down
- use reading and writing for various purposes on their own initiative
- orally read with reasonable fluency
- use letter-sound associations, word parts, and context to identify new words
- identify an increasing number of words by sight
- sound out and represent all substantial sounds in spelling a word
- write about topics that are personally meaningful
- attempt to use some punctuation and capitalization

What teachers do

- support the development of vocabulary by reading daily to the children, transcribing their language, and selecting materials that expand children's knowledge and language development
- model strategies and provide practice for identifying unknown words
- give children opportunities for independent reading and writing practice
- read, write, and discuss a range of different text types (poems, informational books)
- introduce new words and teach strategies for learning to spell new words
- demonstrate and model strategies to use when comprehension breaks down
- help children build lists of commonly used words from their writing and reading

What parents and family members can do

- talk about favorite storybooks
- read to children and encourage them to read to you
- suggest that children write to friends and relatives
- bring to a parent-teacher's conference evidence of what your child can do in writing and reading
- encourage children to share what they have learned about their writing and reading



Phase 4: Transitional reading and writing *(goals for second grade)*

Children begin to read more fluently and write various text forms using simple and more complex sentences.

Second-graders can

- read with greater fluency
- use strategies more efficiently (rereading, questioning, and so on) when comprehension breaks down
- use word identification strategies with greater facility to unlock unknown words
- identify an increasing number of words by sight
- write about a range of topics to suit different audiences
- use common letter patterns and critical features to spell words
- punctuate simple sentences correctly and proofread their own work
- spend time reading daily and use reading to research topics

What teachers do

- create a climate that fosters analytic, evaluative, and reflective thinking
- teach children to write in multiple forms (stories, information, poems)
- ensure that children read a range of texts for a variety of purposes
- teach revising, editing, and proofreading skills
- teach strategies for spelling new and difficult words
- model enjoyment of reading

What parents and family members can do

- continue to read to children and encourage them to read to you
- engage children in activities that require reading and writing
- become involved in school activities
- show children your interest in their learning by displaying their written work
- visit the library regularly
- support your child's specific hobby or interest with reading materials and references

Phase 5: Independent and productive reading and writing *(goals for third grade)*

Children continue to extend and refine their reading and writing to suit varying purposes and audiences.

Third-graders can

- read fluently and enjoy reading
- use a range of strategies when drawing meaning from the text
- use word identification strategies with greater facility to unlock unknown words
- use word identification strategies appropriately and automatically when encountering unknown words
- recognize and discuss elements of different text structures
- make critical connections between texts
- write expressively in many different forms (stories, poems, reports)
- use a rich variety of vocabulary and sentences appropriate to text forms
- revise and edit their own writing during and after composing
- spell words correctly in final writing drafts

What teachers do

- provide opportunities daily for children to read, examine, and critically evaluate narrative and expository texts
- continue to create a climate that fosters critical reading and personal response
- teach children to examine ideas in texts
- encourage children to use writing as a tool for thinking and learning
- extend children's knowledge of the correct use of writing conventions
- emphasize the importance of correct spelling in finished written products
- create a climate that engages all children as a community of literacy learners

What parents and family members can do

- continue to support children's learning and interest by visiting the library and bookstores with them
- find ways to highlight children's progress in reading and writing
- stay in regular contact with your child's teachers about activities and progress in reading and writing
- encourage children to use and enjoy print for many purposes (such as recipes, directions, games, and sports)
- build a love of language in all its forms and engage children in conversation.

Primary Level Literacy Education

Three Planning Models

As parents, teachers, and administrators develop a ***continuum of children's development in early reading and writing*** and implement ***literacy instruction in the primary grades*** (K-3), schools will undoubtedly examine various ways of providing such instruction in reading and writing. In a presentation at the 1997 Annual Conference of the National Association for the Education of Young Children (**NAEYC**), researchers Susan Neuman, John Pikulski, and Kathy Roskos presented three such models of facilitating literacy.

The *Workshop Model* envisions children becoming writers and readers through hearing, reading, and responding to good literature. In this model, teachers

- read to children on a daily basis.
- arrange for children's independent reading of self-selected books.
- provide opportunities for 'learning to read' with quality children's literature.
- embed skills instruction as needed in texts children are reading.
- provide for journal writing everyday.
- involve children in a variety of literature extension activities.

The strength of this model is its responsiveness to children's individual needs, but a drawback is that simply embedding skills instruction in texts "as needed" is perceived as somewhat risky.

Another means of strengthening literacy is through the *Directed Learning Model*. In this model, children learn to read and write systematically through a prescribed program of instruction, through exposure to literature and basal readers, through specific skills instruction and practice, and through a combination of self-directed and teacher-led literacy activities. Here the role of teachers is to

- read to children regularly.
- encourage self-selected, independent reading of literature.
- teach reading using literature and basal readers, and align instruction with prescribed curriculum.
- flexibly group students for direct instruction in specific writing and reading skills.
- provide open-ended writing activities, e.g., journal writing.
- involve children in self-evaluation of writing and reading (toward prescribed goals).

The structure of this model is its strength, but the rigidity with which it provides instruction is also viewed as a drawback.

A third way of facilitating literacy in the primary grades is by using the *Interdisciplinary Model*, in which writing and reading are viewed as a means of participation in a learning community—as a set of social practices. Children encounter and learn literacy strategies and skills through their engagement in content-rich studies or projects. The function of the teacher in this learning community is to

- select topics of study in collaboration with children (to be a learning organizer).
- determine what children know and want/need to learn (to make curricular connections).
- form study teams and determine activities.
- provide a well-provisioned environment relevant to the study, including a wide range of literacy resources.
- teach writing and reading "as you go" and to ensure active participation.
- involve parents and the community.
- implement ongoing assessment to assure conceptual understanding and effective use of literacy processes.

This model's strength is the authenticity it brings to both instruction and assessment; a drawback is the quantity of resources needed to implement such planning processes.

All three of these literacy models represent means of addressing the tension, inherent in developmentally appropriate practice, between the need for adults to provide instruction and the need of children to make their own discoveries. Other models which parents, teachers, and administrators may consider using should not only focus on appropriate classroom practices but also incorporate the common elements of these three plans which emphasize (1) **meaningful engagement by children**, (2) **use of quality literature**, (3) **integration of writing and reading**, (4) **developmental spelling and writing**, and (5) **social characteristics of learning.**

The outline of ***Three Planning Models*** was included in the presentation ***Literacy Development for Young Children*** by Susan Neuman, John Pikulski, and Kathy Roskos, at the **NAEYC** Annual Conference, in Anaheim, California, on 13 November 1997. Neuman, Pikulski, and Roskos are members of **IRA**'s Committee on Literacy Development for Young Children, and may be reached in care of the International Reading Association, 800 Barksdale Road, P. O. Box 8139, Newark, Delaware 19714-8139, (800)336-7323.

Literacy Instruction in the Primary Grades

The **IRA/NAEYC** joint position statement on the development of literacy also includes recommended teaching practices to support the grade-level expectations identified in the continuum of reading and writing development.

It states that every child in the primary grades is "entitled to excellent instruction in reading and writing that includes but is not limited to

- daily experiences of being read to and independently reading meaningful and engaging stories and informational texts;
- a balanced instructional program that includes systematic code instruction along with meaningful reading and writing activities;
- daily opportunities and teacher support to write many kinds of texts for different purposes, including stories, lists, messages to others, poems, reports, and responses to literature;
- writing experiences that allow the flexibility to use nonconventional forms of writing at first (invented or phonic spelling) and over time to move to conventional forms;
- opportunities to work in small groups for focused instruction and collaboration with other children;
- an intellectually engaging and challenging curriculum that expands knowledge of the world and vocabulary; and
- adaptation of instructional strategies or more individualized instruction if the child fails to make expected progress in reading or when literacy skills are advanced."

Although the position statement advocates the use of early intervention strategies, it also concludes that "human beings are amazingly resilient and incredibly capable of learning throughout life. We should strengthen our resolve to ensure that every child has the benefit of positive early childhood experiences that support literacy development. At the same time, regardless of children's prior learning, schools have the responsibility to educate every child and to never give up even if later interventions must be more intensive and costly."

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Of Primary Interest Online

Of Primary Interest is now available on the internet. Issues may be retrieved by accessing the website which the National Association of Early Childhood Specialists in State Departments of Education (**NAECS/SDE**) maintains, courtesy of the ERIC Clearinghouse on Elementary and Early Childhood Education. As each issue has been published during 1997-98, it has been posted on the **NAECS/SDE** website. Plans call for all past issues (1993-97) to be posted as well, in order to form a chronological archive. *Of Primary Interest* may accessed at <**http://ericps.crc.uiuc.edu/naecs/opi-nl.html**>.

We should strengthen our resolve to ensure that every child has the benefit of positive early childhood experiences that support literacy development.

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